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FAA STATISTICAL HANDBOOK OF AVIATION. CALENDAR YEAR 1977.(U)
DEC 77 C MOLES, V WIMBUSH

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FAA STATISTICAL HANDBOOK OF AVIATION

CALENDAR YEAR 1977



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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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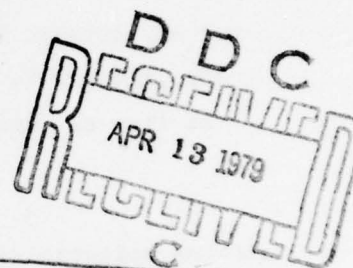
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PREFACE

The *FAA Statistical Handbook of Aviation* is published annually by the Federal Aviation Administration. Its prime purpose is to serve as a convenient source for historical data, and to assist in evaluating progress. This edition contains data on major civil aviation activities for the period ended December 31, 1977.

The Handbook should prove a valuable source of information for the Department of Transportation, operating offices of the FAA, the Civil Aeronautics Board, and other government agencies, as well as nongovernment organizations interested in aviation.

Chapter I deals with the Federal Aviation Administration and its functions. This section also includes a comparison of the agency's appropriations from fiscal years 1972-1977, and the agency's personnel complement for 6-month intervals from June 30, 1966 to December 31, 1977.

National Airspace System data reflecting the workload of the FAA air traffic facilities--terminal and en route--are contained in Chapter II. This chapter contains air traffic activity reported by FAA-operated airport traffic control towers, air route traffic control centers, and domestic and international flight service stations.

Selected statistics concerning the Nation's Airport Facilities are presented in Chapter III by state within FAA regions. In addition to the total count of these facilities, this chapter includes statistics pertaining to the physical characteristics (paved vs. unpaved runways, lighted vs. unlighted runways, length of runways, etc.), size of population areas served, funds allocated for airport development, etc.

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Airport activity statistics comprising Chapter IV were prepared from data published in the calendar year 1977 edition of *Airport Activity Statistics of the Certificated Route Air Carriers*, issued jointly by the Civil Aeronautics Board and the Federal Aviation Administration. In addition, this chapter presents individual passenger and traffic activity data for some of the Nation's international airports.

The U.S. Civil Air Carrier Fleet, as of December 31, 1977, is described in detail in Chapter V. These statistics were developed from Monthly Aircraft/Engine Utilization Reports submitted by the air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft actually used by the air carrier fleet during the last quarter of calendar year 1977.

U.S. Civil Air Carrier Operating Data--revenue passenger miles flown, available seat-miles and enplanements, revenue ton-miles flown, revenue aircraft miles flown, personnel, payroll, average salary, and operating revenues and expenses of the certificated route air carriers--are presented in Chapter VI. These statistics were obtained from schedules submitted by the certificated route air carriers to the Civil Aeronautics Board.

The Airmen data shown in Chapter VII were obtained from official airmen certification records maintained by the FAA Aeronautical Center at Oklahoma City, Oklahoma.

The data presented in Chapter VIII represent a count of the total registered U.S. civil fleet, including general aviation and air carrier. The number of registered general aviation aircraft was obtained from official aircraft registration records maintained by the

FAA Aeronautical Center at Oklahoma City, Oklahoma. Through 1969 general aviation statistics--primary use, hours flown, miles flown, etc.--were estimated from information received on aircraft use and Inspection Reports (FAA Form 2350). Beginning with 1970 the above data are estimated from the Registration Eligibility, Identification, and Activity Report (AC Form 8050-73).

Aeronautical Production and Exports are summarized in Chapter IX. This information was obtained from reports submitted to the U.S. Bureau of the Census by the manufacturers of civil aircraft, and the General Aviation Manufacturers Association's shipment reports.

Aircraft Accidents, both air carrier and general aviation, appear in Chapter X. Up to 1965, air carrier accident data were furnished by the Civil Aeronautics Board. Comparable data for 1965 to 1977 inclusive, were made available by the National Transportation Safety Board. General aviation accident data from 1959 to 1965 were obtained from the CAB. The following two years data were collected by the NTSB. However, during 1957 and 1958, the CAB and the Civil Aeronautics Administration shared the responsibility for the investigation and analysis of general aviation accidents.

The *FAA Statistical Handbook of Aviation* is prepared by the Information Operations Branch, Information and Statistics Division, Office of Management Systems, with the cooperation of other FAA and DOT offices. Appreciation is expressed to the Civil Aeronautics Board, U.S. Bureau of the Census, U.S. Department of Labor, Interstate Commerce Commission, Immigration and Naturalization Service, and many municipalities and private organizations for their assistance.

v

1'S	2'S	3'S	4'S	5'S	6'S	7'S	8'S	9'S	10'S	11'S	12'S	13'S	14'S	15'S	16'S	17'S	18'S	19'S	20'S	21'S	22'S	23'S	24'S	25'S	26'S	27'S	28'S	29'S	30'S	31'S	32'S	33'S	34'S	35'S	36'S	37'S	38'S	39'S	40'S	41'S	42'S	43'S	44'S	45'S	46'S	47'S	48'S	49'S	50'S	51'S	52'S	53'S	54'S	55'S	56'S	57'S	58'S	59'S	60'S	61'S	62'S	63'S	64'S	65'S	66'S	67'S	68'S	69'S	70'S	71'S	72'S	73'S	74'S	75'S	76'S	77'S	78'S	79'S	80'S	81'S	82'S	83'S	84'S	85'S	86'S	87'S	88'S	89'S	90'S	91'S	92'S	93'S	94'S	95'S	96'S	97'S	98'S	99'S	100'S
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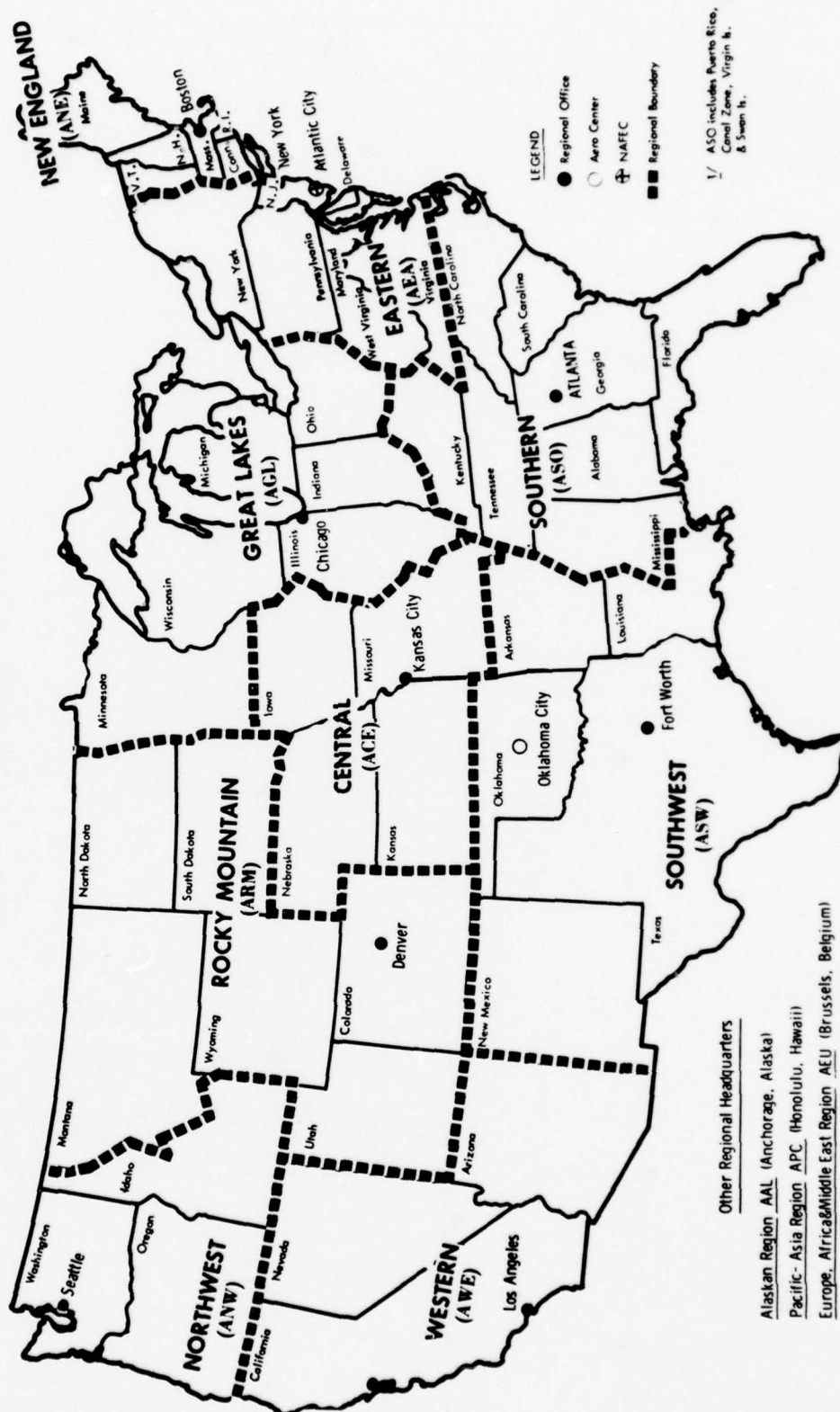
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Department of Transportation
Federal Aviation Administration

FAA REGIONAL BOUNDARIES

Including Locations of Regional Headquarters & Centers



I. THE FEDERAL AVIATION ADMINISTRATION

The Department of Transportation Act of 1966 established a new executive department known as the Department of Transportation. The general welfare, economic growth, stability, and security of the Nation pointed to the need for the development of national transportation policies and programs effectively utilizing the Nation's transportation resources. The Act provided for inclusion of the Federal Aviation Agency in the Department as the Federal Aviation Administration.

Directed by an Administrator, who is appointed by the President, by and with the advice and consent of the Senate, the FAA has as its primary function fostering the development and safety of American aviation. More specifically, the FAA is responsible for developing the major policies necessary to guide the long-range growth of civil aviation; modernizing the air traffic control system; establishing in a single authority the essential management functions necessary to support the common needs of civil and military operations; providing for the most effective and efficient use of the airspace over the United States; and for the rulemaking responsibilities relative to these functions.

The FAA constructs, operates, and maintains the National Airspace System and the facilities which are a part of the system; it allocates and regulates the use of the airspace; it ensures adequate separation between aircraft operating in controlled airspace; and, through research and development programs, it provides new systems and equipment for improving utilization of the Nation's airspace.

The Federal-aid Airport Program (FAAP) authorized the FAA to make grants of federal funds to sponsors for airport development and for advanced planning and engineering. Under FAAP, approximately \$1.2 billion

was granted by FAA to airport sponsors for airport development purposes from 1947 through 1970. FAAP was superseded by the Airport Development Aid Program (ADAP), established by the Airport and Airway Development Act of 1970. The FAA maintains and operates Washington National and Dulles International airports. Dulles International is the first airport in the world specifically designed for the use of commercial jet transports.

The FAA prescribes and administers rules and regulations concerning airmen competency, aircraft airworthiness, and air traffic control. It promotes safety through certification of airmen, aircraft, and flight and aircraft maintenance schools. It reviews the design, structure, and performance of new aircraft to insure the safety of the flying public.

Services provided by FAA toward the development of aviation and air commerce include:

- Dissemination of news and information on civil aviation generally.

- Publication of flight information data for pilots.

- Technical aviation assistance to other governments, operation of overseas civil aviation missions, and the aviation training of foreign nationals.

- Development of medical standards for airmen through aviation medical research.

- Research and development in the field of aeronautics and electronics.

- Other activities required to encourage and foster the world-wide development of civil aviation and air commerce.

Policies governing these programs are developed in the Washington headquarters of FAA, and are executed by field employees under the supervision of regional offices strategically located throughout the

United States as well as the National Aviation Facilities Experimental Center (NAFEC) at Atlantic City, New Jersey, and the Aeronautical Center at Oklahoma City, Oklahoma.

TABLE 1.1
FAA APPROPRIATIONS: FISCAL YEARS 1976 THROUGH 1979

Appropriation	1976	1977	1978	1979
Total	\$1,928,064,000	\$2,599,150,000	\$2,775,556,000 ⁺	\$3,030,165,000
Operations	1,567,250,000 ¹	1,487,800,000	1,622,700,000 ⁴	1,681,400,000
Operations (Airport and Airway Trust Fund)	-----	250,000,000	275,000,000	300,000,000
Facilities and Equipment (Airport and Trust Fund)	245,537,000	200,000,000	200,000,000 ⁵	282,297,000 ⁷
Grants-in-Aid for Airports (Airport and Airway Trust Fund)	2,800,000	545,000,000 ²	555,000,000	644,140,000
Research, Engineering and Development (Airport and Airway Trust Fund)	67,500,000	74,350,000	80,800,000	75,100,000
Operation and Maintenance	18,602,000	21,500,000	22,293,000 ⁺	23,858,000
Metropolitan Washington Airports	9,286,000	10,954,100	11,278,400 ⁺	12,123,100
Washington National Airport	9,316,000	10,545,900	11,014,600 ⁺	11,734,900
Dulles International Airport	11,625,000	5,000,000	5,500,000	5,000,000
Construction	14,750,000	15,500,000 ³	14,263,000 ⁶	18,370,000 ⁸
Metropolitan Washington Airports	-----	-----	-----	-----
Facilities, Engineering, and Development	-----	-----	-----	-----

⁺ Revised.

- ¹ Does not reflect \$6,000,000 additional obligation authority transferred from other accounts.
² Includes \$35,000,000 additional obligation authority made available by the Economic Stimulus Act, P.L. 95-29.
³ Does not reflect \$1,900,000 additional obligation authority transferred from other accounts.
⁴ Does not reflect \$5,600,000 additional obligation authority transferred from other accounts.

⁵

- Does not reflect \$9,000,000 additional obligation authority transferred from other accounts.
⁶ Does not reflect \$2,350,000 additional obligation authority transferred from other accounts.
⁷ Does not reflect \$54,363,000 additional obligation authority transferred from other accounts.
⁸ Does not reflect \$145,000 additional obligation authority transferred from other accounts.

TABLE 1.2

FAA EMPLOYEES ON JUNE 30 AND DECEMBER 31: 1968 THROUGH 1977¹

Date	Total Employees	Washington Headquarters ²			Other Field
		Total	Washington Stationed	Washington Field	
June 30, 1968	46,825	4,039	3,052	987	42,786
December 31, 1968	46,272	3,775	2,831	944	42,497
June 30, 1969	49,106	3,858	2,896	962	45,248
December 31, 1969	48,331	3,774	2,855	919	44,557
June 30, 1970	51,477	3,808	2,838	970	47,669
December 31, 1970	53,125	3,917	2,944	973	49,208
June 30, 1971	54,550	3,807	2,887	920	50,743
December 31, 1971	54,258	3,862	2,951	911	50,396
June 30, 1972	53,330	3,648	2,757	891	49,682
December 31, 1972	52,528	3,598	2,687	911	48,930
June 30, 1973	53,533	3,594	2,713	881	49,939
December 31, 1973	53,068	3,625	2,704	921	49,443
June 30, 1974	55,971	3,981	2,940	1,041	51,990
December 31, 1974	55,259	3,873	2,863	1,010	51,386
June 30, 1975	57,708	3,930	2,956	974	53,778
December 31, 1975	56,761	3,839	2,908	931	52,922
June 30, 1976	59,093	4,064	3,106	958	55,029
December 31, 1976	57,820	4,027	3,052	975	53,793
June 30, 1977	58,581	4,101	3,113	988	54,480
December 31, 1977	57,655	3,779	2,824	955	53,876

¹ Includes all paid civilian employees (full-time, part-time, and intermittent), and military personnel assigned on a reimbursable basis.

² Washington stationed includes only those employees on the Washington headquarters' rolls whose duty station is the District of Columbia. Washington field includes those employees on the Washington headquarters' rolls whose duty stations are outside the District of Columbia, such as Washington National Airport, Dulles International Airport, overseas Civil Aviation Assistance Groups, inspectors stationed at equipment manufacturers' plants, etc.

II. THE NATIONAL AIRSPACE SYSTEM

Air traffic activity as discussed in this chapter represents a workload handled by FAA facilities only (towers, air route traffic control centers, and domestic and international flight service stations). Data for towers are reported on FAA Form 7230-11 (Airport Operations and Instrument Approaches Monthly Summary). This form contains landings and takeoffs (aircraft operations) reported by the towers by aviation category--air carriers, air taxi, general aviation, and military; instrument operations (IFR landings and takeoffs) and instrument approaches (IFR landings) are also included. Data for Air Route Traffic Control Centers (ARTCC's) are reported on FAA Form 7230-12 (ARTCC Operations and Instrument Approaches Monthly Summary). Data contained on this form show departures, overs, and aircraft handled, plus instrument approaches handled by the ARTCC's.

Activity of flight service stations, international flight service stations and combined station/towers is submitted on FAA Form 7230-13 (Monthly Activity Record--Flight Service Stations). More detailed data pertaining to activity of these facilities may be found in the fiscal year 1977 edition of *FAA Air Traffic Activity*.

Note: Calendar year publication has been discontinued with the change to the new fiscal year. Therefore, all air traffic activity data presented will be on a fiscal year basis.

TABLE 2.1
U.S. AIR ROUTE AIRWAY MILEAGE: 1968 THROUGH 1977¹
(Contiguous 48 States)

December 31	Low Frequency ²	Very High Frequency VOR/VORTAC		
		Low Altitude		Jet Routes
		Direct	Alternate	
1968	322	137,112	31,359	103,708
1969	155	138,295	32,356	108,171
1970	94	140,268	33,215	112,662
1971	94	142,093	33,274	114,373
1972	94	143,241	33,436	117,417
1973	94	144,578	32,999	119,672
1974	94	144,939	32,999	122,372
1975	---	148,834	32,320	123,258
1976	---	150,172	31,888	130,160
1977	---	152,947	31,270	131,868

¹ Mileage shown in nautical miles based on National Ocean Survey figures.

² Low frequency activity decommissioned.

TABLE 2.2

FAA AIR ROUTE FACILITIES AND SERVICES: 1968 THROUGH 1977

Year Ending December 31	L/MF Radio Ranges ¹	VOR VORTAC	Nondirec- tional Radio Beacons	Airways Centers	Airport Towers	Combined Station/ Towers	Flight Service Stations	Inter- national Flight Service Stations	Instrument Landing Systems	Precision Approach Radar ⁷	Airport Surveil- ance Radar
1968	29	952	538	27	271	51	329	12	279	27	155
1969	28	947	589	27	281	48	332	8	288	28	124
1970	27	964	640	27	288	46	332	8	310	---	120
1971	25	980	669	27	347	44	331	8	337	---	122
1972	25	991	706	27	355	42	324	7	403	---	125
1973	16	995	739	27	403	29	315	7	467	---	142
1974	---	1,000	793	27	417	21	320	7	490	---	156
1975	---	1,011	848	26	487	21	321	7	580	---	177
1976	---	1,020	920	25	488	16	321	7	640	---	175
1977	---	1,021 ²	959 ³	25 ⁴	495 ⁵	7	319	7	678 ⁶	---	182 ⁸

¹ All L/MF radio ranges decommissioned.² Includes 58 nonfederal and 47 military.³ Includes 603 nonfederal and 59 military.⁴ Includes 2 CERAP's.⁵ Includes 30 nonfederal and 44 military.⁶ Includes 6 LDA's, 52 nonfederal, and 6 military.⁷ All FAA PAR's decommissioned.⁸ Includes 29 military.

TABLE 2.3
AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS, BY AVIATION CATEGORY--FISCAL YEARS 1973-1977

Workload Measure	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<u>IFR Aircraft Handled¹</u>	1977	25,973,299	---	12,986,985	---	1,639,300	---	6,856,057	---	4,490,957	---
	1976	23,924,963	+1	12,406,660	*	1,395,304	+6	5,956,575	+8	4,166,424	-5
	1975	23,585,959	+3	12,370,936	*	1,316,590	+23	5,520,551	+9	4,377,922	+1
	1974	22,882,796	*	12,399,806	-2	1,070,700	+19	5,082,604	+10	4,329,686	-8
	1973	22,842,650	+4	12,605,046	+2	900,737	+18	4,630,087	+17	4,706,780	-4
<u>IFR Departures</u>	1977	10,178,872	---	4,790,929	---	781,158	---	2,971,633	---	1,635,152	---
	1976	9,403,227	+2	4,616,439	*	668,362	+6	2,584,473	+8	1,533,953	-4
	1975	9,258,198	+3	4,623,462	*	631,750	+23	2,399,351	+9	1,603,635	-1
	1974	8,962,992	+1	4,636,828	-1	511,765	+18	2,199,364	+10	1,615,000	-8
	1973	8,877,399	+5	4,699,295	+1	432,344	+18	1,997,954	+18	1,747,800	-1
<u>IFR Overs</u>	1977	5,615,555	---	3,405,127	---	76,984	---	912,791	---	1,220,653	---
	1976	5,118,509	+1	3,173,782	+2	58,580	+10	787,629	---	1,098,518	-6
	1975	5,069,603	+2	3,124,012	*	53,090	+13	721,849	+6	1,170,652	+6
	1974	4,956,812	-3	3,126,150	-3	47,170	+31	683,876	+8	1,099,616	-9
	1973	5,087,852	-1	3,206,456	+2	36,049	+19	634,179	+14	1,211,168	-12

¹ The number of IFR Departures multiplied by two, plus the number of IFR Overs.

* Less than 0.5 percent.

NOTE: Fiscal year 1977 is based on the new fiscal year October 1976 through September 1977.
The years 1973-1976 are based on the old fiscal year July through June.

TABLE 2.4
AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS, BY AVIATION CATEGORY--FISCAL YEARS 1973-1977

Workload Measure	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<u>Total Aircraft Operations</u>	1977	66,724,291	---	9,770,137	---	3,296,502	---	50,958,847	---	2,698,805	---
	1976	62,491,505	+6	9,339,479	*	2,867,621	+6	47,594,278	+8	2,690,127	*
	1975	58,934,700	+4	9,374,363	-1	2,708,901	+15	44,159,682	+5	2,691,754	-4
	1974	56,845,120	+5	9,476,535	-3	2,351,900	+11	42,202,326	+9	2,814,359	-13
	1973	53,922,674	+1	9,808,402	+1	2,115,273	+7	38,777,459	+1	3,221,540	-8
<u>Itinerant Operations</u>	1977	42,425,767	---	9,770,137	---	3,296,502	---	28,101,396	---	1,257,732	---
	1976	39,660,709	+6	9,339,479	*	2,867,621	+6	26,180,772	+8	1,272,837	-1
	1975	37,552,859	+4	9,374,363	-1	2,708,901	+15	24,183,342	+5	1,286,253	-2
	1974	36,067,118	+6	9,476,535	-3	2,351,900	+11	22,922,885	+11	1,315,798	-11
	1973	34,028,828	(+)	9,808,402	+1	2,115,273	+7	20,633,639	+1	1,471,514	-2
<u>Local Operations</u>	1977	24,298,524	---	---	---	---	---	22,857,451	---	1,441,073	---
	1976	22,830,796	+7	---	---	---	---	21,413,506	+7	1,417,290	+1
	1975	21,381,841	+3	---	---	---	---	19,976,340	+4	1,405,501	-6
	1974	20,778,002	+4	---	---	---	---	19,279,441	+6	1,498,561	-14
	1973	19,893,846	-1	---	---	---	---	18,143,820	+1	1,750,026	-13

* Less than 0.5 percent.

NOTE: Fiscal year 1977 is based on the new fiscal year October 1976 through September 1977. The years 1973-1976 are based on the old fiscal year July through June.

TABLE 2.5
AIR TRAFFIC ACTIVITY AT FAA FACILITIES, BY AVIATION CATEGORY--FISCAL YEARS 1973-1977

Workload Measure	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<u>Total Instrument Operations</u>	1977	31,518,742	---	10,053,440	---	2,563,822	---	15,150,698	---	3,750,782	---
	1976	28,097,463	+8	9,461,957	-1	2,156,475	+16	12,754,841	+19	3,724,190	-6
	1975	26,063,156	+8	9,537,250	+1	1,858,651	+29	10,718,382	+17	3,948,873	-2
	1974	24,081,360	+7	9,472,974	-3	1,438,929	+27	9,153,598	+23	4,015,859	-5
	1973	22,572,558	+16	9,762,834	+2	1,132,663	+30	7,433,007	+47	4,244,054	+8
<u>Total Instrument Approaches¹</u>	1977	1,776,691	---	670,064	---	194,347	---	813,612	---	98,668	---
	1976	1,671,558	-12	675,213	-16	176,599	-10	706,625	-8	113,121	-8
	1975	1,892,335	+5	803,397	+1	196,820	+18	769,281	+7	122,837	*
	1974	1,802,429	-7	791,555	-15	166,225	+1	721,528	+3	123,121	-12
	1973	1,940,234	+13	933,802	+8	164,278	+35	702,421	+20	139,733	-2
<u>Total Instrument Control Facilities</u>	1977	1,618,381	---	640,895	---	174,015	---	710,941	---	92,530	---
	1976	1,519,443	-11	640,465	-15	154,909	-7	617,523	-7	106,546	-5
	1975	1,698,432	+3	753,206	+1	166,087	+16	667,136	+5	112,003	-2
	1974	1,644,812	-8	748,951	-16	143,758	+1	637,944	+1	114,159	-12
	1973	1,788,399	+12	886,283	+8	142,396	+31	630,326	+20	129,394	-3

¹ Includes instrument approaches at Air Route Traffic Control Centers.

* Less than 0.5 percent.

NOTE: Fiscal year 1977 is based on the new fiscal year October 1976 through September 1977. The years 1973-1976 are based on the old fiscal year July through June.

TABLE 2.6
AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES--FISCAL YEARS 1973-1977

Facility	Year	Flight Services ¹					Flight Plans Originated					Airport Advisors		Pilot Briefs	
		Total	Annual Change	Total	Annual Change	IFR-DVFR	Annual Change	VFR	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<u>Flight Service Stations</u>	1977	60,928,168	---	8,607,414	---	5,858,565	---	2,748,849	---	3,054,885	---	16,852,412	---		
	1976	57,511,119	*	8,028,349	+2	5,357,865	+4	2,670,484	-2	2,878,486	-3	15,938,507	-1		
	1975	57,712,289	+4	7,886,054	+3	5,173,777	+5	2,712,277	*	2,964,845	-5	16,072,668	+5		
	1974	55,559,277	+5	7,658,941	+8	4,933,104	+11	2,725,837	+3	3,124,909	-18	15,268,816	+5		
	1973	52,745,245	+7	7,102,865	+9	4,455,633	+16	2,647,232	*	3,829,590	+22	14,487,407	+9		
<u>Combined Station/ Towers</u>	1977	380,291	---	63,932	---	16,054	---	47,878	---	0	0	45,937	---		
	1976	593,554	+5	96,963	+5	34,212	-3	62,751	+10	0	0	92,979	+5		
	1975	562,801	-16	92,233	-15	35,098	-12	57,195	-17	0	0	88,245	-17		
	1974	671,836	-30	109,015	-25	39,808	-23	69,207	-23	0	0	106,161	-37		
	1973	960,769	-11	145,696	-8	56,124	-17	89,572	-2	0	0	169,145	-11		
<u>International Flight Service Stations</u>	1977	2,263,673	---	420,536	---	177,119	---	243,417	---	1,615	---	382,959	---		
	1976	1,832,448	-1	371,799	+3	135,498	+3	236,301	+3	1,205	+12	329,728	-5		
	1975	1,843,873	+3	360,434	-1	131,874	-1	228,560	-1	1,071	-19	348,619	-3		
	1974	1,796,585	-15	364,873	-29	133,748	-51	231,125	-5	1,329	+50	358,947	+4		
	1973	2,104,849	-5	515,339	-11	272,071	-14	243,268	-8	884	-62	346,204	+7		

¹ The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted. No credit is allowed for airport advisors.
* Less than 0.5 percent.

NOTE: Fiscal year 1977 is based on the new fiscal year October 1976 through September 1977. The years 1973-1976 are based on the old fiscal year July through June.

TABLE 2.7
AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES--FISCAL YEARS 1973-1977

Facility	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<u>Flight Service Stations</u>	1977	10,008,516	---	359,899	---	763,995	---	8,308,058	---	576,564	---
	1976	9,577,407	-2	374,170	-11	731,127	+4	7,895,816	-1	576,294	-16
	1975	9,794,845	+1	418,360	-6	699,925	+9	7,988,973	+1	687,587	+2
	1974	9,703,763	+1	442,957	-21	643,049	+2	7,946,718	+3	671,039	-1
	1973	9,564,701	-1	560,899	+12	628,770	+5	7,699,033	-3	675,999	+4
<u>IFR-DVFR</u>	1977	1,637,448	---	279,199	---	173,224	---	984,207	---	200,818	---
	1976	1,525,214	-6	298,600	-12	161,547	-3	859,131	-3	205,936	-8
	1975	1,618,865	+8	339,721	+5	166,969	+17	887,159	+8	225,016	+8
	1974	1,495,105	-1	324,179	+4	142,602	-9	819,284	+1	209,040	-10
	1973	1,512,081	+10	312,385	+2	155,880	+12	812,126	+16	231,690	+2
<u>VFR</u>	1977	8,371,068	---	80,700	---	590,771	---	7,323,851	---	375,746	---
	1976	8,052,193	-2	75,570	-4	569,580	+7	7,036,685	-1	370,358	-20
	1975	8,175,980	*	78,639	-34	532,956	+6	7,101,814	*	462,571	*
	1974	8,208,658	+2	118,778	-52	500,447	+6	7,127,434	+3	461,999	+4
	1973	8,052,620	-3	248,514	+29	472,890	+2	6,886,907	-4	444,309	+5

TABLE 2.7 (Continued)
AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES--FISCAL YEARS 1973-1977

Facility	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<u>International Flight Service Stations</u>	1977	656,683	---	120,170	---	238,397	---	272,870	---	25,246	---
	1976	429,394	+1	87,109	+15	123,059	-5	205,465	*	13,761	-10
	1975	425,767	+22	75,824	+7	129,110	+4	205,467	+45	15,366	+22
	1974	348,945	-9	70,605	-4	124,159	-12	141,620	-7	12,561	-20
	1973	381,763	-8	73,489	-26	140,838	+6	151,643	-7	15,793	-30
<u>IFR-DVFR</u>	1977	155,029	---	118,712	---	4,204	---	25,714	---	6,399	---
	1976	109,160	+14	85,998	+16	3,339	-13	15,656	+19	4,167	-12
	1975	95,775	+15	74,065	+9	3,842	+36	13,135	+57	4,733	+20
	1974	83,342	-8	68,222	-2	2,817	-9	8,368	-24	3,935	-39
	1973	90,240	-29	69,781	-26	3,097	+4	10,964	-24	6,398	-56
<u>VFR</u>	1977	501,654	---	1,458	---	234,193	---	247,156	---	18,847	---
	1976	320,234	-3	1,111	-37	119,720	-4	189,809	-1	9,594	-10
	1975	329,992	+24	1,759	-26	125,268	+3	192,332	+44	10,633	+23
	1974	265,603	-9	2,383	-36	121,342	-12	133,252	-5	8,626	-8
	1973	291,523	*	3,708	-12	137,741	+7	140,679	-6	9,395	+21

TABLE 2.7 (Continued)
AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES--FISCAL YEARS 1973-1977

Facility	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<u>Combined/Station Tower</u>	1977	160,553	---	4,279	---	64,175	---	80,940	---	11,159	---
	1976	213,670	+6	5,099	+116	55,486	+36	139,079	-2	14,006	-18
	1975	201,725	-16	2,365	-5	40,867	+19	141,494	-23	16,999	-18
	1974	241,484	-27	2,487	-35	34,332	-6	183,931	-29	20,734	-38
	1973	331,087	-12	3,841	-1	36,485	+7	257,271	-15	33,490	-4
<u>IFR-DVFR</u>	1977	13,717	---	3,248	---	3,507	---	4,666	---	2,296	---
	1976	20,231	+28	4,794	+121	3,645	+240	8,206	-4	3,586	-11
	1975	15,775	-11	2,170	-6	1,072	+103	8,507	-14	4,026	-20
	1974	17,755	-32	2,317	-34	529	-58	9,880	-31	5,029	-30
	1973	26,206	-8	3,528	+13	1,258	-27	14,228	-7	7,192	-16
<u>VFR</u>	1977	146,836	---	1,031	---	60,668	---	76,274	---	8,863	---
	1976	193,439	+4	305	+56	51,841	+30	130,873	-2	10,420	-20
	1975	185,950	-17	195	+15	39,795	+18	132,987	-24	12,973	-17
	1974	223,729	-27	170	-46	33,803	-4	174,051	-28	15,705	-40
	1973	304,881	-12	313	-59	35,227	+9	243,043	-16	26,298	*

* Less than 0.5 percent.

NOTE: Fiscal year 1977 is based on the new fiscal year October 1976 through September 1977.
The years 1973-1976 are based on the old fiscal year July through June.

III. AIRPORTS

Data pertaining to U.S. civil and joint-use landing facilities (including airports, heliports, stolports, and seaplane bases) were furnished by the FAA Airports Service. This information was obtained through physical inspection and mail solicitations, and was reported on the Airport Master Record (Form FAA 5010-1) and FAA Landing Facilities Information Request on Airports, Heliports, Stolports, and Seaplane Bases (Forms 5010-2 and 5010-5).

TABLE 3.1

AIRPORTS ON RECORD WITH FAA: 1968 THROUGH 1977¹

Year	Total	With Runway Lights	With Paved Runways	Airports of Entry
1968	10,470	3,312	3,353	64
1969	11,050	3,430	3,650	63
1970	11,261	3,554	3,805	61
1971	12,070	3,759	4,176	64
1972	12,405	3,827	4,390	63
1973	12,700	3,880	4,527	60
1974	13,062	3,999	4,716	61
1975	13,251	4,171	4,865	62
1976	13,770	4,362	5,106	76
1977	14,117	4,483	5,313	70

¹ Includes seaplane bases, heliports, stolports, and military fields having joint civil-military use.

TABLE 3.2

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND
SEAPLANE BASES, AND REPORTED ABANDONMENTS ON RECORD, BY FAA REGION

AND STATE: DECEMBER 31, 1977

FAA Region and State	Total Aircraft Facilities ¹	Airports	Heliports	Stolports	Seaplane Bases	Reported Abandon- ments During Year
Total	<u>14,117</u>	<u>11,713</u>	<u>1,850</u>	<u>41</u>	<u>513</u>	<u>294</u>
United States--total ²	<u>14,069</u>	<u>11,679</u>	<u>1,840</u>	<u>41</u>	<u>509</u>	<u>293</u>
New England--total	<u>542</u>	<u>354</u>	<u>112</u>	<u>7</u>	<u>69</u>	<u>16</u>
Connecticut	103	56	40	1	6	3
Maine	162	112	6	2	42	4
Massachusetts	139	83	41	3	12	4
New Hampshire	54	40	8	---	6	4
Rhode Island	24	15	7	---	2	---
Vermont	60	48	10	1	1	1
Eastern--total	<u>1,906</u>	<u>1,423</u>	<u>411</u>	<u>8</u>	<u>64</u>	<u>35</u>
Delaware	32	23	9	---	---	---
District of Columbia	17	2	14	---	1	---
Maryland	142	105	32	3	2	2
New Jersey	254	127	116	---	11	8
New York	490	379	80	1	30	8
Pennsylvania	651	515	118	2	16	16
Virginia	249	213	30	2	4	1
West Virginia	71	59	12	---	---	---
Great Lakes--total	<u>2,832</u>	<u>2,479</u>	<u>262</u>	<u>3</u>	<u>88</u>	<u>79</u>
Illinois	<u>876</u>	<u>742</u>	<u>124</u>	<u>---</u>	<u>10</u>	<u>34</u>
Indiana	306	275	31	---	---	9
Michigan	413	390	14	1	8	10
Minnesota	336	282	8	---	46	8
Ohio	569	485	75	2	7	12
Wisconsin	332	305	10	---	17	6
Central--total	<u>1,274</u>	<u>1,207</u>	<u>56</u>	<u>3</u>	<u>8</u>	<u>30</u>
Iowa	253	242	9	1	1	6
Kansas	351	340	8	1	2	5
Missouri	365	332	27	1	5	7
Nebraska	305	293	12	---	---	12
Southern--total	<u>1,666</u>	<u>1,435</u>	<u>202</u>	<u>4</u>	<u>25</u>	<u>18</u>
Alabama	142	130	12	---	---	1
Florida	438	336	84	1	17	7
Georgia	275	236	37	2	---	2
Kentucky	97	87	10	---	---	---
Mississippi	154	148	6	---	---	---
North Carolina	258	243	13	---	2	2
Puerto Rico	27	16	10	---	1	1
South Carolina	126	116	10	---	---	2
Tennessee	144	121	20	1	2	3
Virgin Islands	5	2	---	---	3	---

TABLE 3.2 (Continued)

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND
SEAPLANE BASES, AND REPORTED ABANDONMENTS ON RECORD, BY FAA REGION
AND STATE: DECEMBER 31, 1977

FAA Region and State	Total Aircraft Facilities ¹	Airports	Heliports	Stolports	Seaplane Bases	Reported Abandonments During Year
Southwest--total	<u>2,123</u>	<u>1,848</u>	<u>244</u>	<u>3</u>	<u>28</u>	<u>57</u>
Arkansas	167	165	---	---	2	1
Louisiana	282	173	89	---	20	8
New Mexico	139	131	8	---	---	4
Oklahoma	285	273	11	---	1	7
Texas	1,250	1,106	136	3	5	37
Rocky Mountain--total	<u>961</u>	<u>866</u>	<u>88</u>	<u>3</u>	<u>4</u>	<u>14</u>
Colorado	261	192	64	2	3	4
Montana	169	165	4	---	---	4
North Dakota	211	208	3	---	---	3
South Dakota	134	130	4	---	---	2
Utah	93	82	9	1	1	1
Wyoming	93	89	4	---	---	---
Western--total	<u>1,140</u>	<u>849</u>	<u>272</u>	<u>6</u>	<u>13</u>	<u>25</u>
Arizona	209	182	25	2	---	5
California	813	568	229	3	13	19
Nevada	118	99	18	1	---	1
Northwest--total	<u>841</u>	<u>674</u>	<u>147</u>	<u>4</u>	<u>16</u>	<u>9</u>
Idaho	190	172	15	---	3	4
Oregon	301	241	55	3	2	4
Washington	350	261	77	1	11	1
Alaskan--total	<u>763</u>	<u>521</u>	<u>44</u>	<u>---</u>	<u>198</u>	<u>11</u>
Pacific--total	<u>69</u>	<u>57</u>	<u>12</u>	<u>---</u>	<u>---</u>	<u>---</u>
Hawaii	53	41	12	---	---	---
South Pacific ³	16	16	---	---	---	---

¹ Includes U.S. civil and joint-use airports, heliports, stolports, and seaplane bases.

² Excludes Puerto Rico, Virgin Islands, and South Pacific.

³ American Samoa, Guam, and Trust Territory.

TABLE 3.3

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES
ON RECORD BY TYPE OF OWNERSHIP AND LANDING FACILITIES, BY FAA REGION AND STATE:

DECEMBER 31, 1977

FAA Region and State	Total Facilities ¹	By Ownership		Paved Airports		Unpaved Airports	
		Public	Private	Lighted	Not Lighted	Lighted	Not Lighted
Total	14,117	4,708	9,409	3,564	1,749	919	7,885
United States--total ²	14,069	4,678	9,391	3,547	1,734	918	7,870
New England--total	542	139	403	128	104	9	301
Connecticut	103	14	89	27	29	---	47
Maine	162	49	113	26	16	4	116
Massachusetts	139	31	108	41	35	1	62
New Hampshire	54	16	38	15	13	3	23
Rhode Island	24	8	16	8	5	1	10
Vermont	60	21	39	11	6	---	43
Eastern--total	1,906	298	1,608	387	259	115	1,145
Delaware	32	3	29	6	4	10	12
District of Columbia	17	8	9	5	7	---	5
Maryland	142	24	118	34	27	8	73
New Jersey	254	34	220	45	45	12	152
New York	490	70	420	93	72	38	287
Pennsylvania	651	76	575	108	65	38	440
Virginia	249	56	193	68	24	8	149
West Virginia	71	27	44	28	15	1	27
Great Lakes--total	2,832	668	2,164	612	170	253	1,797
Illinois	876	96	780	103	62	59	652
Indiana	306	67	239	84	20	32	170
Michigan	413	133	280	113	19	43	238
Minnesota	336	143	193	83	6	40	207
Ohio	569	125	444	134	49	52	334
Wisconsin	332	104	228	95	14	27	196
Central--total	1,274	447	827	364	64	141	705
Iowa	253	115	138	92	6	49	106
Kansas	351	123	228	92	15	44	200
Missouri	365	116	249	115	28	25	197
Nebraska	305	93	212	65	15	23	202
Southern--total	1,666	699	967	628	213	98	727
Alabama	142	93	49	85	21	3	33
Florida	438	126	312	114	63	28	233
Georgia	275	121	154	106	34	9	126
Kentucky	97	54	43	42	21	6	28
Mississippi	154	77	77	64	19	9	62
North Carolina	258	72	186	76	17	25	140
Puerto Rico	27	12	15	10	12	---	5
South Carolina	126	63	63	52	8	15	51
Tennessee	144	77	67	77	18	3	46
Virgin Islands	5	4	1	2	---	---	3

TABLE 3.3 (Continued)

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES
ON RECORD BY TYPE OF OWNERSHIP AND LANDING FACILITIES, BY FAA REGION AND STATE:

DECEMBER 31, 1977

FAA Region and State	Total Facilities ¹	By Ownership		Paved Airports		Unpaved Airports	
		Public	Private	Lighted	Not Lighted	Lighted	Not Lighted
Southwest--total	2,123	627	1,496	616	319	63	1,125
Arkansas	167	76	91	65	15	7	80
Louisiana	282	72	210	68	46	10	158
New Mexico	139	62	77	42	22	2	73
Oklahoma	285	127	158	114	26	10	135
Texas	1,250	290	960	327	210	34	679
Rocky Mountain--total	961	466	495	272	93	77	519
Colorado	267	82	179	67	45	17	144
Montana	169	115	54	60	9	12	88
North Dakota	211	95	116	49	7	22	133
South Dakota	134	74	60	37	6	30	61
Utah	93	58	35	38	17	---	38
Wyoming	93	42	51	27	9	2	55
Western--total	1,140	450	690	321	330	29	460
Arizona	209	96	113	57	34	10	108
California	813	296	517	242	275	16	280
Nevada	118	58	60	22	21	3	72
Northwest--total	841	339	502	176	148	58	459
Idaho	190	130	60	32	23	5	130
Oregon	301	93	208	61	52	19	169
Washington	350	116	234	83	73	34	160
Alaskan--total	763	543	220	45	16	74	628
Pacific--total	69	32	37	15	33	2	19
Hawaii	53	18	35	10	30	1	12
South Pacific ³	16	14	2	5	3	1	7

¹ Includes U.S. civil and joint-use airports, heliports, stolports, and seaplane bases.² Excludes Puerto Rico, Virgin Islands, and South Pacific.³ American Samoa, Guam, and Trust Territory.

TABLE 3.4
U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD
BY LENGTH OF LONGEST RUNWAY, BY FAA REGION AND STATE: DECEMBER 31, 1977

FAA Region and State	By Length of Runway (In Feet)									
	Total ¹	Under 3,000	3,000-3,999	4,000-4,999	5,000-5,999	6,000-6,999	7,000-7,999	8,000-8,999	9,000-9,999	10,000+over
Total	14,117	8,940	2,503	1,015	758	315	161	101	64	260
United States--total ²	14,069	8,916	2,500	1,011	754	312	158	100	62	256
New England--total	542	379	49	28	40	12	9	3	2	20
Connecticut	103	87	2	6	5	---	1	---	1	1
Maine	162	93	15	14	11	---	4	---	---	17
Massachusetts	139	99	15	5	13	2	2	1	1	1
New Hampshire	54	33	10	---	7	2	1	---	---	---
Rhode Island	24	17	2	2	1	1	---	1	---	---
Vermont	60	50	5	1	3	---	1	---	---	---
Eastern--total	1,906	1,494	195	68	64	28	11	10	9	27
Delaware	32	26	2	2	1	---	1	---	---	---
District of Columbia	17	14	---	1	---	1	---	---	---	1
Maryland	142	114	17	5	3	---	---	1	1	1
New Jersey	254	215	19	4	9	1	2	1	2	1
New York	490	361	50	21	19	10	3	3	4	19
Pennsylvania	651	545	53	18	16	8	2	2	2	5
Virginia	249	177	40	13	11	4	1	3	---	---
West Virginia	71	42	14	4	5	4	2	---	---	---
Great Lakes--total	2,832	2,088	421	108	93	41	21	15	10	35
Illinois	876	767	65	13	12	9	4	2	---	3
Indiana	306	222	51	14	10	3	2	1	2	1
Michigan	413	277	80	16	20	10	5	---	1	4
Minnesota	336	197	67	13	24	7	3	3	3	19
Ohio	569	409	92	36	17	7	1	4	2	1
Wisconsin	332	216	65	16	10	5	6	5	2	7

TABLE 3.4 (Continued)
U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD
BY LENGTH OF LONGEST RUNWAY, BY FAA REGION AND STATE: DECEMBER 31, 1977

FAA Region and State	By Length of Runway (In Feet)									
	Total ¹	Under 3,000	3,000- 3,999	4,000- 4,999	5,000- 5,999	6,000- 6,999	7,000- 7,999	8,000- 8,999	9,000- 9,999	10,000 +over
Central--total	1,274	892	249	54	31	19	12	6	2	9
Iowa	253	173	55	12	3	5	1	2	1	1
Kansas	351	248	62	15	14	2	7	1	--	2
Missouri	365	262	70	10	9	6	2	1	--	5
Nebraska	305	209	62	17	5	6	2	2	1	1
Southern--total	1,666	829	450	157	119	44	22	19	10	16
Alabama	142	49	47	21	13	6	1	2	2	1
Florida	438	249	78	39	31	14	9	7	1	10
Georgia	275	140	77	23	25	5	--	2	1	2
Kentucky	97	56	19	9	6	5	--	--	--	--
Mississippi	154	55	68	14	8	3	2	3	1	--
North Carolina	258	144	68	25	8	7	4	2	--	--
Puerto Rico	27	19	2	2	2	--	--	--	--	2
South Carolina	126	55	42	8	14	2	1	1	2	--
Tennessee	144	61	49	15	12	2	1	2	2	--
Texas	5	1	--	1	--	--	2	--	--	1
Southwest--total	2,123	1,135	535	202	133	49	30	9	7	23
Arkansas	167	91	43	11	12	8	2	--	--	--
Louisiana	282	173	62	15	13	5	2	1	1	10
New Mexico	139	27	23	32	33	10	9	2	--	3
Oklahoma	285	157	81	19	16	4	3	1	2	2
Texas	1,250	687	326	125	59	22	14	5	4	8
Rocky Mountain--total	961	442	223	142	72	35	19	13	8	7
Colorado	261	115	51	42	25	10	6	8	--	4
Montana	169	65	57	27	8	4	--	3	4	1
North Dakota	211	151	42	8	4	3	2	--	1	--
South Dakota	134	75	33	16	3	4	2	1	--	--
Utah	93	12	22	25	19	7	5	--	2	1
Wyoming	93	24	18	24	13	7	4	1	1	1

TABLE 3.4 (Continued)

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD

BY LENGTH OF LONGEST RUNWAY, BY FAA REGION AND STATE: DECEMBER 31, 1977

FAA Region and State	By Length of Runway (In Feet)									
	Total ¹	Under 3,000	3,000- 3,999	4,000- 4,999	5,000- 5,999	6,000- 6,999	7,000- 7,999	8,000- 8,999	9,000- 9,999	10,000 and Over
Western--total	1,140	641	196	125	77	47	18	12	5	19
Arizona	209	73	45	51	19	10	6	2	---	3
California	813	531	136	52	39	24	7	6	3	15
Nevada	118	37	15	22	19	13	5	4	2	1
Northwest--total	841	586	110	61	49	12	4	2	4	13
Idaho	190	100	40	29	13	2	1	1	2	2
Oregon	301	222	31	20	15	7	1	1	---	4
Washington	350	264	39	12	21	3	2	---	2	7
Alaskan--total	763	409	71	67	76	22	14	11	4	89
Pacific--total	69	45	4	3	4	6	1	1	3	2
Hawaii	53	41	3	2	2	3	---	---	1	1
South Pacific ³	16	4	1	1	2	---	1	---	2	---

¹ Includes U.S. civil and joint-use airports, heliports, stolports, and seaplane bases.

² Excludes Puerto Rico, Virgin Islands, and South Pacific.

³ American Samoa, Guam, and Trust Territory.

TABLE 3.5

AIRPORTS ON RECORD WITH FAA BY FAA REGION AND STATE AND OTHER AREAS: DECEMBER 31, 1968-1977¹

FAA Region and State	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total	<u>10,470</u>	<u>11,050</u>	<u>11,261</u>	<u>12,070</u>	<u>12,405</u>	<u>12,700</u>	<u>13,062</u>	<u>13,251</u>	<u>13,770</u>	<u>14,117</u>
United States--total²	<u>10,442</u>	<u>11,016</u>	<u>11,226</u>	<u>12,028</u>	<u>12,362</u>	<u>12,656</u>	<u>13,019</u>	<u>13,207</u>	<u>13,728</u>	<u>14,069</u>
New England--total	427	440	445	463	457	481	512	529	547	542
Maine	135	140	139	148	153	155	158	161	162	162
New Hampshire	49	51	52	54	46	50	56	58	57	54
Rhode Island	12	14	14	14	15	17	17	18	22	24
Massachusetts	114	117	118	116	117	125	131	139	141	139
Connecticut	76	74	78	86	79	83	91	91	104	103
Vermont	41	44	44	45	47	51	59	62	61	60
Eastern--total	<u>1,274</u>	<u>1,350</u>	<u>1,418</u>	<u>1,505</u>	<u>1,543</u>	<u>1,631</u>	<u>1,729</u>	<u>1,776</u>	<u>1,860</u>	<u>1,906</u>
New York	371	409	414	444	442	465	478	488	496	490
Pennsylvania	447	453	475	511	514	541	579	609	644	651
Virginia	147	161	185	192	209	220	227	230	240	249
Maryland	81	82	81	91	99	107	123	128	135	142
West Virginia	49	49	47	46	50	52	54	51	58	71
Delaware	22	24	26	25	30	30	32	32	32	32
New Jersey	154	167	184	189	192	207	222	222	239	254
District of Columbia	3	5	6	7	7	9	14	16	16	17
Great Lakes--total	<u>1,838</u>	<u>2,027</u>	<u>2,048</u>	<u>2,258</u>	<u>2,419</u>	<u>2,490</u>	<u>2,594</u>	<u>2,620</u>	<u>2,772</u>	<u>2,832</u>
Illinois	483	585	599	652	749	773	829	831	867	876
Indiana	163	180	179	199	208	220	232	237	293	306
Minnesota	265	259	262	266	276	279	295	301	312	336
Michigan	278	302	305	376	383	401	403	400	421	413
Ohio	416	451	447	491	522	536	543	548	558	569
Wisconsin	233	250	256	274	281	281	292	303	321	332
Central--total	<u>1,045</u>	<u>1,059</u>	<u>1,051</u>	<u>1,125</u>	<u>1,159</u>	<u>1,197</u>	<u>1,205</u>	<u>1,198</u>	<u>1,243</u>	<u>1,274</u>
Kansas	278	272	270	295	307	315	314	318	334	351
Iowa	230	240	236	241	244	246	248	241	250	253
Missouri	275	287	286	313	319	341	346	343	358	365
Nebraska	262	260	259	276	289	295	297	296	301	305

TABLE 3.5 (Continued)
AIRPORTS ON RECORD WITH FAA BY FAA REGION AND STATE AND OTHER AREAS: DECEMBER 31, 1968-1977¹

FAA Region and State	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Southern--total	1,189	1,287	1,297	1,365	1,397	1,409	1,436	1,474	1,555	1,666
North Carolina	179	209	210	231	228	227	236	237	251	258
South Carolina	100	108	113	116	120	120	117	116	123	126
Georgia	171	192	202	218	231	232	236	248	262	275
Florida	283	296	291	323	329	332	341	355	391	438
Mississippi	149	153	152	130	134	138	141	145	148	154
Alabama	124	131	128	130	128	127	126	129	131	142
Tennessee	97	105	108	113	120	122	128	128	132	144
Kentucky	63	69	69	73	76	80	81	87	90	97
Puerto Rico	19	20	20	27	27	27	26	25	23	27
Virgin Islands	4	4	4	4	4	4	4	4	4	5
Southwest--total	1,608	1,663	1,704	1,913	1,986	2,020	2,046	2,070	2,087	2,123
Louisiana	210	218	221	240	260	278	286	281	280	282
Oklahoma	205	226	230	265	273	278	273	277	285	285
Texas	938	960	982	1,128	1,167	1,169	1,192	1,213	1,217	1,250
New Mexico	125	124	127	129	131	134	134	134	139	139
Arkansas	136	135	144	151	155	161	161	165	166	167
Rocky Mountain--total	827	821	846	871	869	872	895	898	947	961
Colorado	174	185	209	217	214	220	228	230	255	261
Wyoming	87	87	80	84	85	84	86	88	90	93
Utah	76	82	81	85	87	92	93	90	90	93
Montana	189	180	179	180	176	167	168	167	172	169
North Dakota	191	175	184	191	193	194	196	198	209	211
South Dakota	110	112	113	114	114	115	124	125	131	134
Western--total	985	1,034	1,047	1,059	1,064	1,063	1,076	1,090	1,124	1,140
California	699	720	730	746	754	753	769	781	804	813
Arizona	197	207	215	209	198	196	196	196	202	209
Nevada	89	107	102	104	112	114	111	113	118	118
Northwest--total	562	609	627	680	685	712	743	765	807	841
Washington	212	235	240	256	258	278	296	307	334	350
Oregon	183	206	221	255	258	264	273	273	286	301
Idaho	167	168	166	169	169	170	174	181	187	190

TABLE 3.5 (Continued)
AIRPORTS ON RECORD WITH FAA BY FAA REGION AND STATE AND OTHER AREAS: DECEMBER 31, 1968-1977¹

FAA Region and State	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Alaskan--total	<u>667</u>	<u>691</u>	<u>708</u>	<u>762</u>	<u>766</u>	<u>766</u>	<u>766</u>	<u>769</u>	<u>762</u>	<u>763</u>
Pacific--total	48	69	70	69	60	59	60	62	66	69
Hawaii	43	59	59	58	48	46	47	47	51	53
South Pacific ³	5	10	11	11	12	13	13	15	15	16

¹ Includes U.S. civil and joint-use airports, heliports, stolports, and seaplane bases.

² Excludes Puerto Rico, Virgin Islands, and South Pacific.

³ American Samoa, Guam, and Trust Territory.

TABLE 3.6
AIRPORT DEVELOPMENT AID PROGRAM STATUS AS OF DECEMBER 31, 1977

FAA Region and State	Air Carrier			General Aviation		
	Total Federal Funds	Total Airports	Total Projects	Total Federal Funds	Total Airports	Total Projects
Total	2,097,243,455	654	2,623	306,276,819	925	1,281
United States--total ¹	2,056,932,790	643	2,580	306,185,611	924	1,280
New England--total	50,929,216	31	151	9,983,070	44	91
Connecticut	8,925,601	5	24	1,933,328	2	10
Maine	9,079,090	8	40	2,075,186	17	23
Massachusetts	22,264,824	9	51	4,312,304	15	41
New Hampshire	3,353,182	4	16	1,172,768	5	8
Rhode Island	4,368,173	1	3	-----	---	---
Vermont	2,938,346	4	17	489,484	5	9
Eastern--total	293,735,381	76	379	40,270,399	82	126
Delaware	2,492,232	1	7	969,655	1	4
District of Columbia	-----	---	---	-----	---	---
Maryland	20,116,204	4	19	3,511,494	6	7
New Jersey	42,577,184	5	38	7,925,229	7	14
New York	88,490,489	23	129	9,523,282	23	39
Pennsylvania	89,704,817	22	97	7,081,055	19	22
Virginia	27,386,575	12	52	6,700,954	16	25
West Virginia	22,967,880	9	37	4,558,730	10	15
Great Lakes--total	300,785,619	103	316	52,437,201	141	175
Illinois	91,732,381	26	80	10,452,563	32	42
Indiana	39,420,397	13	34	13,054,370	20	24
Michigan	68,985,291	23	69	10,193,528	22	25
Minnesota	24,178,287	15	45	6,749,239	27	29
Ohio	37,750,466	13	41	6,319,979	15	22
Wisconsin	38,718,797	13	47	5,667,522	25	33

TABLE 3.6 (Continued)
AIRPORT DEVELOPMENT AID PROGRAM STATUS AS OF DECEMBER 31, 1977

FAA Region and State	Air Carrier			General Aviation		
	Total Federal Funds	Total Airports	Total Projects	Total Federal Funds	Total Airports	Total Projects
Central--total	95,251,801	49	178	20,846,686	85	102
Iowa	23,200,195	11	33	3,766,879	17	20
Kansas	22,307,806	16	41	3,997,791	19	20
Missouri	19,600,862	8	43	6,630,242	22	26
Nebraska	30,142,938	14	61	6,451,774	27	36
Southern--total	391,051,986	104	453	51,857,539	178	234
Alabama	25,869,547	11	48	5,513,267	16	23
Florida	103,979,355	28	118	9,418,472	30	44
Georgia	94,590,032	12	46	7,055,079	29	33
Kentucky	27,796,194	7	47	4,246,626	13	16
Mississippi	21,756,352	12	45	6,917,966	37	48
North Carolina	40,717,130	12	52	8,989,749	23	35
Puerto Rico	7,864,072	2	10	91,208	1	1
South Carolina	12,417,534	7	17	3,885,921	12	14
Tennessee	46,698,824	11	58	5,739,251	17	20
Virgin Islands	9,362,946	2	12	-----	--	--
Southwest--total	281,402,815	74	377	48,020,298	170	230
Arkansas	16,066,045	10	47	5,255,152	22	29
Louisiana	53,513,705	10	56	4,272,254	12	16
New Mexico	13,570,941	10	54	3,366,728	13	22
Oklahoma	33,238,406	12	60	6,905,238	49	59
Texas	165,013,718	32	160	28,220,926	74	104
Rocky Mountain--total	163,112,556	60	251	22,436,111	82	103
Colorado	61,010,512	14	51	5,756,338	11	16
Montana	24,558,354	15	65	2,909,806	15	16
North Dakota	17,656,514	7	34	4,104,086	17	20
South Dakota	18,202,086	9	53	3,402,782	12	14
Utah	25,957,319	5	20	3,838,728	15	20
Wyoming	15,727,771	10	28	2,424,371	12	17

TABLE 3.6 (Continued)
AIRPORT DEVELOPMENT AID PROGRAM STATUS AS OF DECEMBER 31, 1977

FAA Region and State	Air Carrier			General Aviation		
	Total Federal Funds	Total Airports	Total Projects	Total Federal Funds	Total Airports	Total Projects
Western--total	202,267,361	63	233	29,604,346	74	114
Arizona	38,734,509	13	44	6,739,176	17	20
California	136,760,036	46	171	20,914,566	53	85
Nevada	26,772,816	4	18	1,950,604	4	9
Northwest--total	92,273,217	35	144	14,930,781	58 ²	85
Idaho	14,729,917	9	38	3,472,559	15	20
Oregon	37,299,594	11	46	4,449,960	19	26
Washington	40,243,706	15	60	7,008,262	24	39
Alaskan--total	137,572,093	44	88	15,601,638	10	20
Pacific--total	88,861,410	15	53	288,750	1	1
Hawaii	65,777,763	8	32	288,750	1	1
South Pacific ³	23,083,647	7	21	-----	--	---

- 1 Excludes Puerto Rico, Virgin Islands, and South Pacific.
2 Moscow, Idaho, and Pullman, Washington Airport collocated--counted as one.
3 Includes American Samoa, Guam, and Trust Territory.

IV. AIRPORT ACTIVITY

The data presented in this chapter were obtained from quarterly reports submitted to the Civil Aeronautics Board by the certificated route air carriers on Schedule T-3 (a) (b) (c), Airport Activity Statistics - Revenue Service. These statistics summarize revenue; passenger enplanements; aircraft departures; and tons of freight, express, and mail enplaned at the 629 certificated points in the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration receiving scheduled and nonscheduled service during calendar year 1977. Effective January 1, 1970, in accordance with CAB's stated definition for "Domestic Operations," operations between the 48 conterminous States, Alaska, and Hawaii have been reclassified as domestic.

Air traffic hubs are not airports; they are the cities and Standard Metropolitan Statistical Areas (SMSA) requiring aviation services. An SMSA is a county that contains at least one city of 50,000 population, or twin cities with a combined population of at least 50,000, plus any contiguous counties that are metropolitan in character and have similar economic and social relationships. These metropolitan areas constitute a primary focal point for the transportation research programs of the FAA, and the analyses of individual cities within an area are treated in relationship to the entire area. In those instances where two or more individually certificated communities are located in an SMSA, those communities are grouped under the SMSA definition throughout this publication.

Individual communities fall into four hub classifications as determined by each community's percentage of the total enplaned revenue passengers in all services and all operations of U.S. certificated route air carriers within the 50 States, the District of Columbia, and other U.S.

areas designated by the Federal Aviation Administration. Classifications in this issue are based on 231,703,026 total enplaned revenue passengers.

The percentage and number of enplaned passengers in the hub classifications for calendar year 1977 are:

<u>Hub Classification</u>	<u>Percentage of Total Enplaned Passengers</u>	<u>Number of Enplaned Passengers</u>
Large (L)	1.00 or more	2,317,030 or more
Medium (M)	0.25 to 0.99	579,258 to 2,317,029
Small (S)	0.05 to 0.24	115,852 to 579,257
Nonhub (N) 1	less than 0.05	less than 115,851

For the 12-month period ended December 31, 1977, there were 158 air traffic hubs. These hubs represented 25.1 percent of the 629 certificated points in the 50 States, the District of Columbia, and other U.S. areas receiving air carrier service during the period. The dominance of the hubs in the air traffic patterns is brought out by the fact that of the 231,703,026 passenger enplanements during the period, 96.8 percent (224,183,609) were recorded at the 158 hubs, while the nonhubs accounted for only 3.2 percent (7,519,417). Of the 96.8 percent of the passenger enplanements recorded at the hubs, the 25 large hubs accounted for 68.1 percent, the 39 medium hubs accounted for 18.3 percent, and the 94 small hubs accounted for 10.4 percent.

Commencing 1971, data for passenger enplanements include enplaned passengers in both domestic and international, and scheduled and non-scheduled service of the certificated route air carriers, for all types of aircraft for the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration.

TABLE 4.1
CERTIFICATED ROUTE AIR CARRIERS AND NUMBER OF CERTIFICATED ROUTE MILES

AUTHORIZED: CALENDAR YEAR 1977

Carrier Type and Certificated Route Carrier	Certificated Route Miles Operated ¹	Carrier Type and Certificated Route Carrier	Certificated Route Miles Operated ¹
--	--	--	--

Domestic Passenger/Cargo Carriers

Trunk Lines:		Intra-Hawaiian Lines:	
Big Four:		Aloha Airlines	494
American Airlines	42,884	Hawaiian Airlines	400
Eastern Airlines	41,549		
Trans World Airlines	28,099	Local Service:	
United Air Lines	48,124	Air Midwest, Inc.	896
		Air New England	797
Other:		Allegheny Airlines	6,888
Braniff Airways	23,269	Frontier Airlines	16,285
Continental Air Lines	27,673	Hughes Air West	5,916
Delta Air Lines	46,327	North Central Airlines	6,863
National Airlines	8,425	Ozark Air Lines	6,195
Northwest Airlines	30,927	Piedmont Aviation	3,909
Western Airlines	27,054	Southern Airways	9,089
		Texas International	5,560
Intra-Alaskan Air Lines:		Helicopter:	
Alaska Airlines	8,043	Chicago Helicopter	42 ²
Kodiak-Western Alaska Airlines, Inc.	1,250	New York Airways	139
Munz Northern	291		
Reeve Aleutian Airways	3,281		
Wien Air Alaska	9,746		

International and Territorial Passenger/Cargo Carriers

Air Micronesia	14,561	National Airlines	4,541
American Airlines	21,855	Northwest Airlines	23,588
Braniff Airways	31,850	Pan American World Airways	266,693
Continental Air Lines	14,561	Trans World Airlines	78,444
Delta Air Lines	8,855	Western Airlines	6,642
Eastern Airlines	23,569		

All Cargo Carriers

Flying Tiger Line	18,156	Seaboard World Airlines	13,531
Airlift International	10,656		

Other Carriers

Aspen Airways	112	Wright Air Lines	92
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- ¹ Certificated route miles authorized are based on each carrier's certificate. This is duplication in that if a pair of points are on different segments, they are counted for each segment.
- ² Carrier authorized to suspend service over its route until 6/15/79.

Source: Records Services Section, Office of Facilities and Operations, CAB.

TABLE 4.2
DOMESTIC AIRLINES TRAFFIC ENPLANED AT U.S. STATIONS
(EXCLUDING ALASKA AND HAWAII): 1968 THROUGH 1977¹

Year	Air Carrier Aircraft Departures	Number of Enplaned Passengers	Tons of Enplaned Mail	Tons of Enplaned Cargo
1968	4,606,354	140,935,857	718,530.1	1,588,325.1
1969	4,699,273	148,072,090	753,123.8	1,740,082.8
1970 ²	5,001,557	155,938,787	782,229.9	1,926,258.3
1971 ²	4,680,678	152,291,732	862,939.3	2,075,811.5
1972	4,741,495	172,263,469	852,941.2	2,451,766.5
1973	4,818,587	182,987,738	829,023.4	2,717,932.6
1974	4,452,156	189,316,615	827,270.8	2,599,894.1
1975	4,447,559	188,495,858	825,563.2	2,356,691.3
1976	4,597,522	206,664,841	895,081.0	2,483,597.9
1977	4,781,923	229,294,987	997,473.3	3,031,518.1

¹ These data include domestic all-cargo figures which are shown in Table 4.6.

² Fiscal year data.

NOTE: Data for 1970 and subsequent years include Alaska and Hawaii. Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.3
AMERICAN FLAG AIRLINE TRAFFIC ENPLANED AT TERRITORIAL
U.S. STATIONS: 1968 THROUGH 1977¹

Year	Air Carrier Aircraft Departures	Number of Enplaned Passengers	Tons of Enplaned Mail	Tons of Enplaned Cargo
1968	265,754	6,724,466	30,100.3	76,998.8
1969	262,091	7,137,624	33,078.0	96,194.0
1970 ¹	42,941	2,331,797	4,792.9	44,719.9
1971 ¹	39,445	2,192,217	3,714.3	32,199.1
1972	41,495	2,524,395	4,310.1	37,397.2
1973	46,080	2,622,340	5,109.1	40,548.0
1974 ²	35,906	2,601,804	5,639.3	45,922.6
1975	30,485	2,243,793	5,807.0	47,394.0
1976	28,559	2,258,714	5,551.2	48,329.3
1977	27,511	2,358,039	6,212.7	55,971.6

¹ Fiscal year data.

² Includes American Samoa, Caroline Islands, Guam, Johnston Islands, Mariana Islands, Marshall Islands, Puerto Rico, and Virgin Islands.

NOTE: Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.4
DOMESTIC HELICOPTER TRAFFIC ENPLANED AT U.S. STATIONS
(EXCLUDING ALASKA AND HAWAII): 1968 THROUGH 1977

Year	Air Carrier Aircraft Departures	Number of Enplaned Passengers	Tons of Enplaned Mail	Tons of Enplaned Cargo
1968	141,973	1,046,715	1,583.3	2,548.2
1969	112,918	744,436	1,042.9	1,791.0
1970 ¹	93,298	620,945	574.2	1,396.8
1971 ¹	79,518	544,368	302.8	963.2
1972	79,979	588,288	200.5	969.2
1973	83,152	614,952	154.7	737.9
1974	80,743	591,830	163.5	418.3
1975	67,923	505,827	201.7	210.3
1976	54,123	443,651	109.0	148.8
1977	35,305	268,023	181.1	52.3

¹ Fiscal year data.

NOTE: Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.5
AMERICAN FLAG AIRLINE TRAFFIC ENPLANED AT FOREIGN STATIONS:
1968 THROUGH 1977¹

Year	Air Carrier Aircraft Departures	Number of Enplaned Passengers	Tons of Enplaned Mail	Tons of Enplaned Cargo
1968	220,357	8,320,656	59,413.1	173,960.0
1969	232,640	9,328,318	58,816.9	213,858.7
1970 ²	188,188	8,886,734	56,003.4	203,979.4
1971 ²	229,164	11,852,243	80,457.5	293,380.1
1972	223,865	12,357,957	61,506.7	361,157.3
1973	224,793	12,614,201	70,614.1	366,634.1
1974	203,980	11,787,449	68,958.2	367,988.3
1975	189,918	10,908,448	62,206.1	363,510.7
1976	183,431	11,575,637	62,557.5	390,220.0
1977	178,711	12,319,732	62,314.1	384,406.4

¹ Includes operations of certificated all-cargo carriers.

² Fiscal year data.

NOTE: Data for 1970 and subsequent years include Alaska and Hawaii. Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.6
DOMESTIC ALL-CARGO AIRLINE TRAFFIC ENPLANED AT U.S. STATIONS
(EXCLUDING ALASKA AND HAWAII): 1968 THROUGH 1977¹

Year	Air Carrier Aircraft Departures	Number of Enplaned Passengers	Tons of Enplaned Mail	Tons of Enplaned Cargo
1968	15,912	---	3,383.4	111,061.0
1969	13,887	---	3,937.2	109,208.9
1970 ²	12,046	---	4,162.5	116,179.2
1971 ²	11,360	---	8,823.7	150,970.7
1972	11,790	---	6,993.3	217,611.8
1973	15,658	845	16,590.9	306,601.8
1974	16,351	440	16,086.5	321,405.3
1975	13,959	1,641	10,021.6	284,131.9
1976	13,594	---	8,466.7	285,333.4
1977	16,008	---	9,525.8	332,200.2

¹ These data are included in Table 4.2

² Fiscal year data.

NOTE: Data for 1970 and subsequent years include Alaska and Hawaii. Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4-7.
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1977

L i n e No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Total performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
1	2	3	4	5	6	7	8	9	10	
1	ATLANTA, GEORGIA									
2	(WILLIAM B. HARTSFIELD INT'L)									
3	0.46	221465	221321	218916	14970115	132217.79	4629.74	74145.12	244.02	
4	BOSTON, MASSACHUSETTS									
5	(LOGAN INTERNATIONAL)									
6	2.44	100271	97783	95191	5657235	80958.80	927.78	18157.48	4762.67	9.38
7	CHICAGO, ILLINOIS									
8	(MIDWAY)									
9	0.00	634	636	628	19304	20.66	1.45	.04		
10	(O'HARE INTERNATIONAL)									
11	8.30	293194	292427	287966	19248248	366489.57	9407.84	70136.71	24104.87	
12	COMMUNITY TOTAL									
13	8.30	293828	293063	288594	19267552	366510.23	9409.29	70136.75	24104.87	
14	CLEVELAND, OHIO									
15	(BURKE LAKEFRONT)									
16	0.01	1935	1878	1822	42329					
17	(HOPKINS INTERNATIONAL)									
18	1.35	60636	61111	59786	3142689	48984.38	2386.25	11153.62	1104.86	
19	COMMUNITY TOTAL									
20	1.36	62571	62989	61608	3185018	48984.38	2386.25	11153.62	1104.86	
21	DALLAS-FORT WORTH, TEXAS									
22	(LOVE FIELD)									
23	0.00	4	4		7					
24	(DALLAS-FORT WORTH REGIONAL)									
25	3.64	148319	148062	146927	8440293	93560.06	1105.41	40723.99	680.69	25.14
26	COMMUNITY TOTAL									
27	3.64	148323	148066	146927	8440300	93560.06	1105.41	40723.99	680.69	25.14
28	DENVER, COLORADO									
29	(STAPLETON INTERNATIONAL)									
30	3.06	122324	122634	120837	7098620	62842.00	555.87	18868.32	2525.35	
31	DETROIT/ANN ARBOR, MICHIGAN									
32	(DETROIT CITY)									
33	0.01	1569	1514	1464	34755					
34	(DETROIT METROPOLITAN WAYNE CTY)									
35	1.86	80565	79624	78302	4332762	103529.07	867.42	17874.98	4832.87	.15
36	COMMUNITY TOTAL									
37	1.87	82134	81138	79766	4367517	103529.07	867.42	17874.98	4832.87	.15
38	HONOLULU, HAWAII									
39	(HONOLULU INTERNATIONAL)									
40	2.27	47183	41946	39433	5262976	88621.75	133.72	11222.63	10774.05	621.12
41	HOUSTON, TEXAS									
42	(HOUSTON INTERCONTINENTAL)									
43	1.62	67523	67537	66853	3760410	41414.90	530.71	13034.62	1812.19	24.31
44	(WILLIAM P. HUBBY)									
45	0.03	1833	1796	1775	91060	40.25				
46	COMMUNITY TOTAL									
47	1.65	69356	69333	68628	3851470	41455.15	530.71	13034.62	1812.19	24.31
48	KANSAS CITY, MISSOURI									
49	(INTERNATIONAL)									
50	1.06	57332	57123	56606	2461540	20547.14	325.73	15749.15	1662.23	
51	(KANSAS CITY MUNI)									
52	0.00	1								
53	COMMUNITY TOTAL									
54	1.06	57333	57123	56606	2461540	20547.14	325.73	15749.15	1662.23	
55	LAS VEGAS, NEVADA									
56	(MC CARRAN INTL)									
57	1.51	52493	48115	47507	3518365	3306.29	40.23	1618.67	4.86	
58	LOS ANGELES/BURBANK/LNG.BCH.CAL									
59	(HOLLYWOOD-BURBANK)									
60	0.08	5188	5360	5279	187054	2513.99	1.54	8.16		
61	(LOS ANGELES INTERNATIONAL)									
62	4.69	144608	143293	141696	10870156	334859.32	3562.39	38590.18	14477.41	
63	(ORANGE COUNTY)									
64	0.12	4933	4962	4904	285102	693.09	.04	.05		
65	COMMUNITY TOTAL									
66	4.89	154729	153615	151879	11342312	338066.40	3563.97	38598.39	14477.41	
67	MIAMI/FT. LAUDERDALE, FLORIDA									
68	(FT. LAUDERDALE-HOLLYWOOD INTL)									
69	0.91	38067	38039	37527	2115336	5943.63	124.26	2500.26	293.04	
70	(MIAMI INTERNATIONAL)									
71	2.27	83959	82803	81840	5265517	134451.81	1079.63	13890.00	1473.24	66.88
72	COMMUNITY TOTAL									
73	3.18	122026	120842	119367	7380853	140395.44	1203.89	16390.26	1766.28	66.88
74	MINNEAPOLIS-ST. PAUL, MINNESOTA									
75	(MINNEAPOLIS-ST. PAUL INTL)									
76	1.65	67731	67051	65927	3844780	47004.71	338.62	17986.35	2623.16	
77	NEWARK, NEW JERSEY									
78	(NEWARK)									
79	1.56	64586	64442	63061	3634119	43307.99	1175.05	17706.75	6663.03	
80	NEW ORLEANS, LOUISIANA									
81	(INTERNATIONAL/MOISANT FIELD)									
82	1.15	46651	46468	45896	2668576	16607.76	428.97	5060.82	424.88	
83	NEW YORK, NEW YORK									
84	(JOHN F. KENNEDY INTL)									
85	3.32	108289	104078	100842	7701986	364844.43	1270.32	54308.74	25657.05	.47
86	(LA GUARDIA)									
87	3.27	132258	127240	123520	7586096	27208.66	1437.97	18823.91	1950.16	

TABLE 4-7.
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1977

Line No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Total performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
1	2	3	4	5	6	7	8	9	10	
1	PAN AMERICAN BLDG HELIPORT)									
2	0.00	3570	4561	3450	22552	.17				
3	(WALL STREET HELIPORT)									
4	0.00	257	336	233	922	.14				
5	COMMUNITY TOTAL									
6	0.59	244374	236215	228045	15311556	392053.40	2708.29	73132.65	27607.21	.47
9	PHILADELPHIA, PA/CAMDEN, NJ									
10	(INTERNATIONAL)									
11	1.61	68734	68310	67528	3731793	53451.30	802.78	19967.57	5063.14	
12	PHOENIX, ARIZONA									
13	(PHOENIX SKY HARBOR INTL)									
14	1.09	47985	48015	47552	2541711	14090.38	80.11	5371.27	1560.52	
15	PITTSBURGH, PA/WHEELING W VA									
16	(GREATER PITTSBURGH)									
17	1.81	92910	92778	91424	4197835	20168.68	543.88	13358.04	1690.69	
18	ST. LOUIS, MISSOURI									
19	(LAMBERT-ST LOUIS MUNI)									
20	1.75	90130	90231	89158	4070387	28711.42	422.65	17636.04	2070.01	
21	SAN FRANCISCO/OAKLAND, CAL.									
22	(OAKLAND METROPOLITAN INTL)									
23	0.13	8853	8707	8609	323510	1030.19	6.99	678.42	7.17	
24	(SAN FRANCISCO INTL)									
25	3.02	101077	99477	98260	7013208	191541.46	2543.45	30139.04	18462.52	.55
26	COMMUNITY TOTAL									
27	3.15	109920	108184	106869	7336718	192571.65	2550.44	30817.46	18469.69	.55
28	SEATTLE/TACOMA, WASHINGTON									
29	(BOEING FIELD INTL.)									
30	0.00	50	44	44	1634	3.34		4.32		
31	(SEATTLE-TACOMA INTERNATIONAL)									
32	1.54	55860	55906	54618	3588573	142708.32	946.24	18288.50	4884.86	10.21
33	COMMUNITY TOTAL									
34	1.54	55910	55950	54662	3590207	142711.66	946.24	18292.82	4884.86	10.21
35	TAMPA&ST.PTSBURG/CLMTR&KEND, FLA									
36	(TAMPA INTERNATIONAL)									
37	1.13	57708	57700	57169	2625477	15047.33	304.72	7273.53	599.73	
38	WASHINGTON, DIST. OF COL.									
39	(DULLES INTERNATIONAL)									
40	0.53	25899	25277	25039	1239151	12171.82	127.06	7194.54	4502.95	.14
41	(WASHINGTON NATIONAL)									
42	2.66	105162	101732	100693	6183337	18380.02	381.17	21167.63	7724.63	
43	COMMUNITY TOTAL									
44	3.19	131061	127009	125732	7422488	30551.84	508.23	28362.17	12227.58	.14
45	OVER-ALL TOTAL,									
46	LARGE HUBS									
47	67.91	2611746	2580321	2538282	157779220	2517272.62	36489.99	603239.45	152836.85	756.35
48										
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TABLE 4-8.
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1977

Line No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Total performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
1	2	3	4	5	6	7	8	9	10	
1	ALBUQUERQUE, NEW MEXICO									
2	(ALBUQUERQUE SUNPRT/KIRTLND AFB)									
3	0.42	22672	22833	22594	977660	3583.79	13.09	2577.48	174.32	
4										
5	ANCHORAGE, ALASKA									
6	(ANCHORAGE INTERNATIONAL)									
7	0.37	16395	15746	14578	861009	34397.52	16.32	11750.63	6194.07	
8	(ELMENDORF AFB)									
9	0.00	3	2	2	65					
10										
11	COMMUNITY TOTAL									
12	0.37	16398	15748	14580	861974	34397.52	16.32	11750.63	6194.07	
13										
14	BALTIMORE, MARYLAND									
15	(BALTO/WASH INTL)									
16	0.64	36097	35882	35384	1500449	17173.64	424.02	9821.32	1049.65	
17										
18	BIRMINGHAM, ALABAMA									
19	(BIRMINGHAM MUNI)									
20	0.29	20783	20701	20510	692076	2496.19	115.76	3148.72	15.38	
21										
22	BUFFALO/ONTARIO FALLS, NEW YORK									
23	(GREATER BUFFALO INTERNATIONAL)									
24	0.66	37903	39371	37523	1531459	11328.08	330.53	5151.01	636.71	
25	(INTERNATIONAL)									
26	0.00	1	1	1						
27										
28	COMMUNITY TOTAL									
29	0.66	37904	39372	37524	1531459	11328.08	330.53	5151.01	636.71	
30										
31	CHARLOTTE, NORTH CAROLINA									
32	(DOUGLAS MUNI)									
33	0.58	33931	34039	33607	1351276	13743.36	876.66	7098.13	79.96	
34										
35	CINCINNATI, OHIO									
36	(GREATER CINCINNATI)									
37	0.59	35859	35923	35537	1368212	10697.96	156.47	5834.03	754.45	
38										
39	COLUMBUS, OHIO									
40	(PORT COLUMBUS INTERNATIONAL)									
41	0.49	27253	27183	26936	1139025	6178.50	159.33	5188.06	667.37	
42										
43	DAYTON, OHIO									
44	(JAMES M COX DAYTON MUNI)									
45	0.38	24636	24764	24464	887627	15026.12	125.84	3107.90	447.54	
46										
47	DES MOINES, IOWA									
48	(DES MOINES MUNI)									
49	0.25	16535	16438	16257	587189	2371.53	52.01	4327.04	27.83	
50										
51	EL PASO, TEXAS									
52	(EL PASO INTERNATIONAL)									
53	0.29	14996	15030	14910	677439	7722.26	53.80	1687.94	.49	
54										
55	GREENSBORO/HIGH PT/WINSTON, N.C.									
56	(GREENSBORO-HIGH PT-WINSTON REG.)									
57	0.23	15422	15353	15193	543501	3518.35	401.28	2145.90	50.71	
58	(SMITH-REYNOLDS)									
59	0.02	5013	4728	4653	58273	215.77	.09	.82		
60										
61	COMMUNITY TOTAL									
62	0.25	20435	20081	19846	601774	3734.12	401.37	2146.72	50.71	
63										
64	HARTFORD/CON/SPGFLD/WESTFLO, MASS									
65	(BRADLEY INTL)									
66	0.55	29034	29203	28652	1286425	13489.28	347.88	7018.21	199.01	
67										
68	HILLO, HAWAII, HAWAII									
69	(GENERAL LYMAN FIELD)									
70	0.27	9087	8395	7818	634999	23309.20	7.12	541.50	372.57	
71										
72	INDIANAPOLIS, INDIANA									
73	(INDIANAPOLIS MUNI/WEIR-COOK/)									
74	0.60	37112	37385	36810	1395730	17347.49	293.65	7784.24	1556.66	
75										
76	JACKSONVILLE, FLORIDA									
77	(JACKSONVILLE INTERNATIONAL)									
78	0.34	19074	19052	18896	790320	2532.30	52.48	4035.81	14.97	
79										
80	KAHULUI, MAUI, HAWAII									
81	(KAHULUI)									
82	0.56	19627	17559	15744	1314332	3049.00		422.93	379.45	
83										
84	LIHUE, KAUAI, HAWAII									
85	(LIHUE)									
86	0.43	12231	10350	9555	1009935	1187.48		177.83	250.35	
87										
88	LOUISVILLE, KENTUCKY									
89	(STANDIFORD FIELD)									
90	0.40	27863	27981	27679	932971	5860.53	94.80	3966.50	203.45	
91										
92	MEMPHIS, TENNESSEE									
93	(MEMPHIS INTERNATIONAL)									
94	0.89	57003	57248	56582	2072202	20948.81	532.22	9859.44	275.58	
95										
96	MILWAUKEE, WISCONSIN									
97	(GENERAL MITCHELL FIELD)									
98	0.58	38554	38662	37805	1362945	11750.12	188.61	5779.13	94.03	
99										
100	NASHVILLE, TENNESSEE									
101	(METROPOLITAN)									
102	0.42	29195	29211	28929	587193	8085.72	292.28	3755.79	517.56	
103										
104	NORFOLK/VA BCH/PTSMH/CHESPEKE, VA									
105	(NORFOLK REGIONAL)									
106	0.35	19532	19681	19438	821182	1890.05	34.23	1936.02		
107										
108	OKLAHOMA CITY, OKLAHOMA									
109	(WILL ROGERS WORLD)									
110	0.39	25490	25647	25384	909915	3885.41	22.63	3807.88	395.68	
111										
112					39					

TABLE 4-8
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1977

Line No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Total performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
No.	1	2	3	4	5	6	7	8	9	10
1	OMAHA, NEBRASKA									
2	(EPPLEY AIRFIELD)									
3	0.36	23347	23271	22963	838185	4426.38	118.98	4859.55	53.37	
4										
5	ORLANDO, FLORIDA									
6	(MCCOY AFB)									
7	0.84	38455	38262	37842	1951644	16358.74	82.32	2903.82	31.23	
8										
9	PORTLAND, OREGON									
10	(PORTLAND INTERNATIONAL)									
11	0.78	40191	40550	39847	1829010	21166.64	189.26	5673.34	751.09	.07
12										
13	RALEIGH/DURHAM, NORTH CAROLINA									
14	(RALEIGH-DURHAM)									
15	0.30	16444	16354	16214	704189	4119.60	208.60	2573.15	52.70	
16										
17	RENO, NEVADA									
18	(RENO INTL)									
19	0.30	14020	13748	13596	707848	1415.31	17.96	1076.48	36.98	
20										
21	ROCHESTER, NEW YORK									
22	(ROCHESTER-MONROE COUNTY)									
23	0.36	23811	24187	23536	838648	4887.53	151.52	4120.15	68.08	
24										
25	SALT LAKE CITY, UTAH									
26	(SALT LAKE CITY INTL)									
27	0.73	35196	35362	34960	1703299	9985.36	138.57	5865.46	74.01	
28										
29	SAN ANTONIO, TEXAS									
30	(SAN ANTONIO INTERNATIONAL)									
31	0.41	22246	22208	21990	950148	5260.35	61.52	3954.81	247.04	
32										
33	SAN DIEGO, CALIFORNIA									
34	(SAN DIEGO INTNL-LINDBERGH FLD)									
35	0.72	25749	25348	25449	1687083	9378.87	128.51	4118.91	5.99	
36										
37	SAN JUAN, PUERTO RICO									
38	(PUERTO RICO INTERNATIONAL)									
39	0.75	14768	14318	14055	1755114	50601.99	4.02	3301.44	150.95	3.97
40										
41	SPOKANE, WASHINGTON									
42	(SPOKANE INTERNATIONAL)									
43	0.29	14429	14441	14291	679527	2566.12	36.75	1810.55	21.76	
44										
45	SYRACUSE, NEW YORK									
46	(CLARENCE E HANCOCK)									
47	0.32	16521	16877	16436	747176	5644.82	98.52	2345.06	24.62	
48										
49	TUCSON, ARIZONA									
50	(TUCSON INTL)									
51	0.30	16805	16844	16733	698664	2432.91	16.74	1292.40	6.19	
52										
53	TULSA, OKLAHOMA									
54	(TULSA INTL)									
55	0.35	22795	22850	22684	816112	6282.79	47.66	3755.72	1188.69	
56										
57	WEST PALM BEACH/PALM BEACH, FLA									
58	(PALM BEACH INTERNATIONAL)									
59	0.33	16653	16586	16476	778085	1748.13	153.53	1309.40	22.09	
60										
61	OVER-ALL TOTAL									
62	MEDIUM HUBS									
63	18.13	972747	970074	952513	42379041	388064.00	6045.66	159864.50	17092.58	4.04
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TABLE 4-8.
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1977

L i n e No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Total performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
1	2	3	4	5	6	7	8	9	10	
1	AKRON/CANTON, OHIO									
2	(AKRON-CANTON)									
3	0.11	7830	7927	7768	271854	857.36	30.73	1176.69	5.44	
4										
5	ALBANY, NEW YORK									
6	(ALBANY COUNTY)									
7	0.24	13010	13300	12964	578486	1186.11	6.15	856.21	.46	
8										
9	ALLENTOWN/BETHLEHEM/EASTON, PA									
10	(ALLENTOWN-BETHLEHEM-EASTON)									
11	0.10	4957	4955	4900	248000	314.64	15.60	34.35	1.35	
12										
13	AMARILLO/BORGER, TEXAS									
14	(AMARILLO AIR TERMINAL)									
15	0.10	6456	6453	6375	242514	545.10	.28	628.70		
16										
17	ASHEVILLE, NORTH CAROLINA									
18	(ASHEVILLE MUNI)									
19	0.07	7114	7270	7094	164299	583.43	1.42	286.16		
20										
21	ASHLAND, KY./HUNTINGTON, W.VA.									
22	(TRI-STATE/WALKER-LONG FIELD)									
23	0.05	4914	4996	4889	126078	101.87	.99	186.56		
24										
25	AUGUSTA, GEORGIA									
26	(RUSH FIELD)									
27	0.07	6507	6513	6460	181135	708.58	4.67	295.36		
28										
29	AUSTIN, TEXAS									
30	(ROBERT MUELLER MUNI)									
31	0.22	10285	10323	10223	510374	1613.78	.10	1510.36		
32										
33	BAKERSFIELD, CALIFORNIA									
34	(MEADOWS FIELD)									
35	0.05	3236	3259	3216	123514	251.00	16.21	65.52	.98	
36										
37	BANGOR, MAINE									
38	(BANGOR INTERNATIONAL)									
39	0.05	2482	2486	2453	124718	518.32	2.24	102.08		
40										
41	BATON ROUGE, LOUISIANA									
42	(RYAN)									
43	0.09	7585	7611	7498	211968	450.68	8.72	118.35		
44										
45	BILLINGS, MONTANA									
46	(LOGAN FIELD)									
47	0.13	9850	9994	9828	322383	869.01	4.54	1423.40	8.20	
48										
49	BISMARCK/MANDAN, NORTH DAKOTA									
50	(BISMARCK MUNI)									
51	0.05	5744	5776	5692	136748	269.32	1.95	360.91	1.51	
52										
53	BOISE, IDAHO									
54	(BOISE AIR TERMINAL/GOWEN FLD)									
55	0.17	9556	9553	9453	406433	915.41	32.37	1277.07	9.05	
56										
57	BRISTOL/KINGSPT/JHNSN CTY, TENN									
58	(TRI CITY)									
59	0.08	9177	9249	9116	206952	1935.93	19.57	399.38		
60										
61	BURLINGTON, VERMONT									
62	(BURLINGTON INTERNATIONAL)									
63	0.06	5022	5139	4955	149047	486.34	2.91	123.11		
64										
65	CASPER, WYOMING									
66	(CASPER AIR TERMINAL)									
67	0.05	4854	4895	4831	119464	695.55	4.17	77.63	.25	
68										
69	CEDAR RAPIDS/IOWA CITY, IOWA									
70	(CEDAR RAPIDS MUNI)									
71	0.10	8047	8077	7924	236779	1885.96	68.34	468.44	.59	
72										
73	CHAMPAIGN/URBANA, ILLINOIS									
74	(UNIVERSITY OF ILLINOIS-WILLARD)									
75	0.05	5791	5981	5702	128859	162.97	.04	194.92	.83	
76										
77	CHARLESTON, SOUTH CAROLINA									
78	(CHARLESTON AFB/MUNI)									
79	0.16	8836	8814	8755	385766	1398.73	73.57	600.38	3.73	
80										
81	CHARLESTON/DUNBAR, W. VIRGINIA									
82	(KANAWHA)									
83	0.11	8556	8765	8521	259921	417.01	12.78	497.52		
84										
85	CHARLOTTE AMALIE, VIRGIN IS. US									
86	(HARRY S. TRUMAN)									
87	0.05	2392	2405	2356	131016	171.32		93.74	.28	
88										
89	CHATTANOOGA, TENNESSEE									
90	(LOWELL FIELD)									
91	0.12	9589	9576	9489	281791	1194.35	28.33	944.88	1.67	
92										
93	CHRISTIANSTED, ST. CROIX, V.I., US									
94	(ALEXANDER HAMILTON)									
95	0.05	3244	3206	3184	137965	468.69		84.01	.34	
96										
97	COLORADO SPRINGS, COLORADO									
98	(PETERSON FIELD)									
99	0.12	7951	8137	7904	281060	1250.63	12.61	116.32		
100										
101	COLUMBIA, SOUTH CAROLINA									
102	(COLUMBIA METROPOLITAN)									
103	0.16	9746	9678	9602	387594	1322.90	123.83	1174.32	1.84	
104										
105	COLUMBUS, GEORGIA									
106	(COLUMBUS METROPOLITAN)									
107	0.07	6687	6678	6573	169869	607.48	15.66	103.72	.42	
108										
109	CORPUS CHRISTI, TEXAS									
110	(CORPUS CHRISTI INTERNATIONAL)									
111	0.08	3969	3976	3924	197576	436.74	44.92	148.85		
112										

TABLE 4-3
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS

12 MONTHS ENDED DECEMBER 31, 1977

L i n e No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Tot l performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
	1	2	3	4	5	6	7	8	9	10
1	DAYTONA BEACH, FLORIDA									
2	(DAYTONA BEACH REGIONAL)									
3	0.12	6561	6465	6419	286756	847.08	20.47	5.05	1.49	
4	DULUTH, MINN./SUPERIOR, WIS.									
5	(DULUTH INTERNATIONAL)									
6	0.05	6198	6497	6081	127578	655.45	.74	127.92	.03	
7	ERIE, PENNSYLVANIA									
8	(ERIE INTL)									
9	0.05	3631	3740	3576	135460	574.33	17.67	118.40		
10	FUGENE, OREGON									
11	(MAHLON SWEET FIELD)									
12	0.07	4648	4658	4587	185341	531.13	20.32	260.72	.10	
13	EVANSVILLE, INDIANA									
14	(EVANSVILLE DRESS REGIONAL)									
15	0.10	5637	5686	5611	232107	1656.67	67.81	212.47	.93	
16	FAIRBANKS, ALASKA									
17	(FAIRBANKS INTERNATIONAL)									
18	0.10	7964	7452	6582	247904	5084.54		2221.84	1598.41	
19	FARGO, N.D./MOORHEAD, MINNESOTA									
20	(HECTOR FIELD)									
21	0.07	5817	5884	5744	171202	325.45	3.02	638.12	4.14	
22	FAYETTEVILLE, NORTH CAROLINA									
23	(FAYETTEVILLE MUNI/GRANNIS FLD)									
24	0.06	6533	6778	6519	146594	431.82	21.18	173.11		
25	FLINT, MICHIGAN									
26	(BISHOP)									
27	0.05	4645	4672	4591	132084	152.81	11.49	215.92		
28	FORT MYERS, FLORIDA									
29	(PAGE FIELD)									
30	0.11	4599	4589	4574	258594	799.18	21.91	7.59	1.30	
31	FORT WAYNE, INDIANA									
32	(MUNICIPAL/BAER FIELD)									
33	0.09	5722	5771	5663	230603	2354.36	72.96	540.07		
34	FRESNO, CALIFORNIA									
35	(FRESNO AIR TERMINAL)									
36	0.15	4706	4729	4639	361957	660.42	33.14	672.50	.08	
37	GAINESVILLE, FLORIDA									
38	(GAINESVILLE MUNI)									
39	0.05	1823	1824	1818	123511	172.08	48.58	1.69	.05	
40	GRAND JUNCTION, COLORADO									
41	(WALKER FIELD)									
42	0.05	3898	3886	3831	137239	364.87	14.90	154.28		
43	GRAND RAPIDS, MICHIGAN									
44	(KENT COUNTY)									
45	0.15	12505	12550	12310	369488	1786.16	48.27	971.25	.53	
46	GREAT FALLS, MONTANA									
47	(GREAT FALLS INTERNATIONAL)									
48	0.06	5594	5616	5569	147990	522.82	.27	285.71	1.89	
49	GREEN BAY/CLINTONVILLE, WIS.									
50	(AUSTIN-STRAUBEL FIELD)									
51	0.12	10783	10964	10573	291119	1875.68	4.35	800.96	.10	
52	GREENVILLE/SPARTANBURG, S.C.									
53	(GREENVILLE-SPARTANBURG)									
54	0.12	8018	8084	7859	386655	1109.55	291.43	922.42	4.67	
55	AGANA NAS, GUAM ISLAND									
56	(AGANA FIELD)									
57	0.08	2983	2798	2713	196586	3046.96		1140.26	1104.74	5.41
58	HARRISBURG/YORK, PA.									
59	(HARRISBURG INTERNATIONAL)									
60	0.12	5539	5507	5414	292475	1074.34	14.27	1150.57	.02	
61	HUNTSVILLE/DECATUR, ALABAMA									
62	(MACISEN COUNTY JETPORT)									
63	0.10	8450	8462	8397	245510	1126.56	7.93	90.34	.02	
64	INDIO/PALM SPRINGS, CALIFORNIA									
65	(PALM SPRINGS MUNI)									
66	0.07	3377	3412	3342	184236	190.35	2.43	.46	.18	
67	JACKSON-VICKSBURG, MISS.									
68	(ALLEN C THOMPSON FIELD)									
69	0.16	10956	10951	10887	372699	2138.07	17.84	1320.96		
70	JUNEAU, ALASKA									
71	(JUNEAU MUNI)									
72	0.05	2932	2970	2900	131474	812.44		506.11	200.21	
73	KAILUA-KONA, HAWAII, HAWAII									
74	(KE-AHOLE)									
75	0.20	7140	5973	5590	486473	2080.51		132.39	130.87	
76	KNOXVILLE, TENNESSEE									
77	(MC GHEE TYSON)									
78	0.19	13387	13411	13252	443202	3431.53	169.01	1273.96	11.84	
79	LANSING, MICHIGAN									
80	(CAPITAL CITY)									
81	0.08	8494	8569	8391	204305	447.05	20.84	371.53	.11	
82	LEXINGTON/FRANKFORT, KENTUCKY									
83	(BLUE GRASS)									
84	0.12	8246	8280	8180	289307	1875.81	168.81	395.08	4.65	

TABLE 4-8.
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS

12 MONTHS ENDED DECEMBER 31, 1977

Line No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Total performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
1	2	3	4	5	6	7	8	9	10	
1	LINCOLN, NEBRASKA									
2	(LINCOLN MUNI)									
3	0.07	7828	7866	7765	183904	549.02	9.14	220.45		
4										
5	LITTLE ROCK, ARKANSAS									
6	(ADAMS FIELD)									
7	0.20	12190	12303	12108	483822	2371.07	58.24	1339.58	1.01	
8										
9	LUBBOCK, TEXAS									
10	(LUBBOCK REGIONAL)									
11	0.12	6942	7030	6888	279771	2047.58	9.78	454.31		
12										
13	MADISON, WISCONSIN									
14	(TRUAX FIELD)									
15	0.14	13340	13463	13172	346843	2280.11	23.15	398.26	.78	
16										
17	MEFORD, OREGON									
18	(MEFORD-JACKSON COUNTY)									
19	0.05	2532	2550	2513	115910	201.03	34.63	227.78	2.19	
20										
21	MELBOURNE, FLORIDA									
22	(CAPE KENNEDY REGIONAL)									
23	0.06	3899	3901	3885	161058	388.33	11.22	.11		
24										
25	MIDLAND/ODESSA, TEXAS									
26	(MIDLAND REGIONAL)									
27	0.12	7254	7294	7208	283492	1543.29	1.49	531.69		
28										
29	MOBILE, AL/PASCAGOULA, MISS									
30	(BATES FIELD)									
31	0.13	10695	10726	10649	311277	760.39	57.82	367.60	1.12	
32										
33	MOLINE, ILLINOIS/DAVENPORT, IOWA									
34	(QUAD-CITY)									
35	0.13	10332	10412	10162	309190	825.41	24.58	766.21		
36										
37	MONTGOMERY, ALABAMA									
38	(DANNELLY FIELD)									
39	0.09	7384	7391	7321	216913	771.29	47.64	271.26	2.46	
40										
41	NEWPT NEW/HAMPTN/WILBG/YKTN, VA									
42	(PATRICK HENRY)									
43	0.07	5344	5391	5315	175269	541.18	35.78	16.63	.04	
44										
45	ONTARIO/SAN BERNARD/RIVERSE, CA									
46	(ONTARIO INTERNATIONAL)									
47	0.19	10079	10082	9957	452623	1704.24	25.80	101.14	11.35	
48										
49	PENSACOLA, FLORIDA									
50	(PENSACOLA REGIONAL)									
51	0.09	4970	4992	4959	219045	469.43	14.08	763.26	3.43	
52										
53	PEORIA, ILLINOIS									
54	(GREATER PEORIA)									
55	0.10	10520	10714	10445	239395	959.23	.39	591.25	.01	
56										
57	PORTLAND, MAINE									
58	(PORTLAND INTERNATIONAL JETPORT)									
59	0.08	5775	5957	5641	205829	661.66	3.77	287.22		
60										
61	PROVIDENCE, RHODE ISLAND									
62	(THEODORE FRANCIS GREEN STATE)									
63	0.20	11275	11408	11145	464517	2004.30	57.80	1598.80	11.78	
64										
65	RAPID CITY, SOUTH DAKOTA									
66	(RAPID CITY REGIONAL)									
67	0.05	5140	5248	5107	136519	270.87	1.30	246.53	1.97	
68										
69	RICHMOND, VIRGINIA									
70	(RICHARD E BYRD FLYING FIELD)									
71	0.21	14218	14279	14093	492078	1432.05	30.84	2010.90	8.92	
72										
73	ROANOKE, VIRGINIA									
74	(ROANOKE MUNI)									
75	0.16	15959	16209	15876	381144	1841.65	5.25	638.03	.83	
76										
77	ROCHESTER, MINNESOTA									
78	(ROCHESTER MUNI)									
79	0.07	8083	8332	8068	171654	255.39	.91	92.80		
80										
81	SACRAMENTO, CALIFORNIA									
82	(SACRAMENTO METROPOLITAN)									
83	0.24	9534	9597	9431	576613	1037.57	46.78	1923.20	.60	
84										
85	SAGINAW/BAY CITY/MIDLAND, MICH.									
86	(TRI CITY)									
87	0.08	5337	5390	5295	205786	461.73	24.12	270.60		
88										
89	SALINAS/MONTEREY, CALIFORNIA									
90	(PENINSULA)									
91	0.10	4762	4755	4722	247387	317.18	19.40	1.90	.02	
92										
93	SAN JOSE, CALIFORNIA									
94	(SAN JOSE MUNI)									
95	0.20	11308	11308	11175	478695	4322.42	28.38	874.90		
96										
97	SANTA BARBARA, CALIFORNIA									
98	(SANTA BARBARA)									
99	0.07	2942	2953	2934	180217	367.14	25.93	27.92	.03	
100	(SANTA MARIA PUBLIC)									
101	0.00	691	728	682	20110	41.04	.01	.09		
102										
103	COMMUNITY TOTAL									
104	0.07	3633	3681	3616	200327	408.18	25.94	28.01	.03	
105										
106	SARASOTA/BRADENTON, FLORIDA									
107	(SARASOTA-BRADENTON)									
108	0.16	8487	8521	8465	385192	895.27	24.82	7.20		
109										
110	SAVANNAH, GEORGIA									
111	(SAVANNAH MUNI)									
112	0.13	5422	5459	5411	308907	590.85	5.52	181.69		
113										

TABLE 4-9.
AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
12 MONTHS ENDED DECEMBER 31, 1977

L i n e No.	Community (Airport Name) Percent of Enplanements	Aircraft departures			Enplaned passengers	Enplaned revenue tons				
		Total performed	Scheduled	Scheduled completed		Freight	Express	U.S. Mail		Foreign mail
								Priority	Nonpriority	
	1	2	3	4	5	6	7	8	9	10
1	SCRANTON/WILKES-BARRE, PENNA.									
2	(WILKES-BARRE-SCRANTON)									
3	0.06	3099	3161	3081	143954	321.64	16.90	146.04	2.39	
4										
5	SHREVEPORT, LOUISIANA									
6	(GREATER SHREVEPORT MUNI)									
7	0.16	13017	13082	12979	379906	1657.34	20.97	1139.62		
8										
9	SIOUX FALLS, SOUTH DAKOTA									
10	(JOE FOSS FIELD)									
11	0.10	11245	11370	11053	239707	986.48	3.64	1061.19	2.51	
12										
13	SOUTH BEND, INDIANA									
14	(ST JOSEPH COUNTY)									
15	0.09	6103	6153	6000	212130	820.73	124.41	322.20	.06	
16										
17	SPRINGFIELD, ILLINOIS									
18	(CAPITAL)									
19	0.05	5645	5738	5583	121348	289.85	.12	290.83	5.13	
20										
21	SPRINGFIELD, MISSOURI									
22	(SPRINGFIELD MUNI)									
23	0.06	6027	6079	5985	156322	444.60		47.05	2.00	
24										
25	TALLAHASSEE, FLORIDA									
26	(TALLAHASSEE MUNI)									
27	0.10	7164	7152	7104	237771	330.35	48.08	415.95	77.38	
28										
29	TOLEDO, OHIO									
30	(TOLEDO EXPRESS)									
31	0.13	8344	8424	8293	305965	572.49	13.39	900.14	1.30	
32										
33	WATERLOO, IOWA									
34	(WATERLOO MUNI)									
35	0.05	6044	6109	5989	117416	692.21	31.81	188.56		
36										
37	WICHITA, KANSAS									
38	(WICHITA MUNI)									
39	0.21	14683	14966	14735	492750	2831.13	36.07	2794.91	14.76	
40										
41	YOUNGSTOWN, OHIO									
42	(YOUNGSTOWN MUNI)									
43	0.05	4147	4213	4088	138807	351.36	6.43	190.05	.96	
44										
45	OVER-ALL TOTAL,									
46	SMALL HUBS									
47	9.87	682137	685876	672548	24025348	97118.19	2562.84	49769.09	3256.33	5.41
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TABLE 4.10
DOMESTIC INTERCITY PASSENGER-MILES BY MODE OF TRAVEL AND CLASS OF SERVICE: 1968 THROUGH 1977
(In Millions)

Mode and Class	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total	1,057,145	1,105,469	1,161,625	1,207,341	1,277,070	1,323,770	1,232,924	1,285,379	1,363,218	1,422,720
Total common carrier	120,745	128,469	135,625	136,341	148,070	157,770	161,924	162,379	176,218	188,220
Scheduled air carrier ¹	87,508	95,946	104,146	106,438	118,138	126,317	128,425	131,728	145,271	156,610
Regular service	19,762	20,186	19,797	19,370	21,956	23,564	24,602	23,622	24,400	25,441
Coach service	67,746	75,760	84,349	87,068	96,182	102,753	103,823	108,106	120,871	131,169
Class I line-haul railways ²	8,737	7,623	6,179	4,403	4,332	5,053	5,799	5,251	5,847	5,710
First-class service	1,178	1,021	765	516	520	583	613	502	570	524
Coach service	7,559	6,602	5,414	3,887	3,812	4,470	5,186	4,749	5,277	5,186
Motor carriers ³ Class I, II, III	24,500	24,900	25,300	25,500	25,600	26,400	27,700	25,400	25,100	25,900
Private automobiles ⁴	936,400	977,000	1,026,000	1,071,000	1,129,000	1,166,000	1,071,000	1,123,000	1,187,000	1,234,500
Percent air to total	8.3	8.7	9.0	8.8	9.3	9.5	10.4	10.3	10.6	11.0
Percent air to total common carrier	72.5	74.7	76.8	78.1	79.8	80.1	79.3	81.1	82.4	83.2
Percent total rail to air	10.0	7.9	5.9	4.1	3.7	4.0	4.5	4.0	4.0	3.6
Percent first-class rail to total air	1.3	1.0	0.7	0.5	0.4	0.5	0.5	0.4	0.4	0.3

¹ Scheduled operations of domestic trunk and local service carriers.

² Includes Pullman Company and excludes commutation.

³ Excludes intrastate and other local movements. Series revised to include Alaska and Hawaii.

⁴ Series revised to include Alaska and Hawaii.

Source: Interstate Commerce Commission, Bureau of Economics; Bureau of Accounts and Statistics, CAB; and Transportation Facts and Trends, July 1978.

V. U.S. CIVIL AIR CARRIER FLEET

Data pertaining to the U.S. civil air carrier fleet are obtained from the Monthly Aircraft/Engine Utilization Reports submitted by the air carrier operators. The U.S. air carrier fleet (for these statistics) is comprised of: (1) certificated route air carriers, (2) supplemental carriers, and (3) commercial operators of large aircraft.

TABLE 5.1
COMPOSITION OF THE U.S. AIR CARRIER FLEET BY TYPE OF AIRCRAFT
AND NUMBER OF ENGINES: DECEMBER 31, 1977 THROUGH 1984¹

Type of Aircraft	Dec. 31 1977	Forecast Air Carrier Fleet: December 31						
		1978	1979	1980	1981	1982	1983	1984
Total	2,473	2,555	2,613	2,672	2,733	2,791	2,846	2,913
Fixed-wing aircraft--total	2,470	2,551	2,608	2,667	2,728	2,786	2,840	2,907
Turbojet	2,168	2,229	2,310	2,393	2,473	2,550	2,623	2,703
2- and 3-engine	1,624	1,640	1,732	1,818	1,908	1,992	2,085	2,214
4-engine	544	589	578	575	565	558	538	489
Turboprop	234	235	223	211	201	191	181	171
1- and 2-engine	174	172	166	160	154	148	142	136
4-engine	60	63	57	51	47	43	39	35
Piston	68	87	75	63	54	45	36	33
1- and 2-engine	35	57	51	45	42	39	36	33
4-engine	33	30	24	18	12	6	---	---
Rotary-wing--total	3	4	5	5	5	5	6	6
Turbine	3	4	5	5	5	5	6	6
Piston	---	---	---	---	---	---	---	---

¹ Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority, or aircraft operated by air travel clubs. These aircraft are shown in separate tables.

NOTE: Included in the forecast are all passenger and cargo aircraft owned or leased by and in the domestic or international service of the United States certificated route, supplemental, intrastate, and commercial air carriers. Aircraft used for training and aircraft that have been withdrawn from service and are awaiting disposal are not included here.

Source: Aviation Forecast: Calendar Years 1978 through 1984, Department of Transportation, Federal Aviation Administration, Office of Aviation Economics, Aviation Forecast Branch.

TABLE 5.2
COMPOSITION OF U.S. AIR CARRIER FLEET BY TYPE OF AIRCRAFT:
DECEMBER 1968 THROUGH 1977 ¹

Year	Total	Fixed-Wing Aircraft				Rotary-Wing Aircraft			
		Total Fixed-Wing	Turbine			Piston	Total Rotary-Wing	Turbine	Piston
			Total	Turbojet	Turboprop				
1968	2,586	2,570	2,239	1,781	458	331	16	13	3
1969	2,690	2,672	2,448	2,068	380	224	18	15	3
1970	2,679	2,663	2,510	2,136	374	153	16	13	3
1971	2,642	2,628	2,482	2,132	350	146	14	11	3
1972	2,583	2,569	2,436	2,118	318	133	14	11	3
1973	2,599	2,586	2,449	2,145	304	137	13	10	3
1974	2,472	2,462	2,344	2,078	266	118	10	10	---
1975	2,495	2,488	2,374	2,114	260	114	7	7	---
1976	2,492	2,487	2,384	2,139	245	103	5	4	1
1977	2,473	2,470	2,402	2,168	234	68	3	3	---

¹ Includes only those aircraft used during the last quarter. Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority, or aircraft operated by air travel clubs. These aircraft are shown on separate tables.

TABLE 5.3
TOTAL AIRCRAFT IN OPERATION BY THE U.S. AIR CARRIER FLEET BY TYPE OF CARRIER
AND BY TYPE OF AIRCRAFT: DECEMBER 1976 AND 1977¹

Type of Aircraft	All Air Carriers		Certificated Route Air Carriers		Supplemental Air Carriers		Commercial Operators	
	1977	1976	1977	1976	1977	1976	1977	1976
Total	2,473	2,492	2,234	2,271	78	77	161	144
Fixed-wing--total	2,470	2,487	2,231	2,266	78	77	161	144
Turbine-powered--total	2,402	2,384	2,220	2,223	72	76	110	85
Turbojet--total	2,168	2,139	2,064	2,043	44	48	60	48
4-engine	544	582	500	533	36	42	8	7
3-engine	1,069	1,022	1,035	992	5	3	29	27
2-engine	555	535	529	518	3	3	23	14
Turboprop--total	234	245	156	180	28	28	50	37
4-engine	60	69	6	21	23	27	31	21
2-engine	174	176	150	159	5	1	19	16
Piston-powered--total	68	103	11	43	6	1	51	59
4-engine	33	37	---	2	2	---	31	35
2-engine	34	55	11	31	4	1	19	23
1-engine	1	11	---	10	---	---	1	1
Rotary-wing--total	3	5	3	5	---	---	---	---
Turbine-powered	3	4	3	4	---	---	---	---
Piston-powered	---	1	---	1	---	---	---	---

¹ Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority, or aircraft operated by air travel clubs. These aircraft are shown in separate tables.

TABLE 5.4
COMPOSITION OF U.S. AIR CARRIER FLEET BY TYPE OF AIRCRAFT, NUMBER OF ENGINES,
AND MODEL: DECEMBER 31, 1976 AND 1977¹

Type of Aircraft, Number of Engines, and Model	1976	1977	Type of Aircraft, Number of Engines, and Model	1976	1977
Total aircraft	2,492	2,473	Piston-powered--total	103	68
Fixed-wing aircraft--total	2,487	2,470	4-engine--total	37	33
Turbine-powered--total	2,384	2,402	Douglas DC4	1	1
4-engine--total	651	604	Douglas DC6	33	30
Turbojet--total	582	544	Douglas DC7	2	1
Boeing 707	240	225	Lockheed L1049	1	1
Boeing 720	25	18	2-engine--total	55	34
Boeing 747	105	108	Aero Commander AC500	3	---
Douglas DC8	211	193	Beech BE18	2	---
Lockheed L7329	1	---	Britten-Norman BN2A	2	---
Turboprop--total	69	60	Convair CV340/440	7	6
Lockheed L188	49	40	Curtiss Wright CW46	16	15
Lockheed L382	20	20	Dornier D028	1	---
3-engine--total	1,022	1,069	Douglas DC3	8	3
Turbojet--total	1,022	1,069	Fairchild C82	2	2
Boeing 727	820	865	Grumman G21	4	---
Douglas DC10	125	127	Grumman G44	1	---
Lockheed L1011	77	77	Martin M404	9	8
2-engine--total	711	729	1-engine--total	11	1
Turbojet--total	535	555	Cessna C185	2	1
Airbus A300	---	2	Cessna C206	4	---
Boeing 737	152	160	Cessna C207	3	---
British Aircraft Corp. BAC111	31	31	DeHavilland DHC2	1	---
Douglas DC9	352	362	DeHavilland DHC3	1	---
Turboprop--total	176	174	Rotary-wing aircraft--total	4	3
Beech BE99	3	---	Turbine-powered--total	4	3
Convair CV580	71	76	Sikorsky S61	4	3
Convair CV600	12	8			
Convair CV640	13	14			
DeHavilland DHC6	18	14			
Fairchild F27	7	4			
Fairchild F277	27	22			
Grumman G159	1	1			
Hawker Siddley HS748	1	1			
Nihon YS11	23	23			
Nord ND62	---	5			
Swearingen SA226	---	6			

¹ Includes only those aircraft used during the last quarter. Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority, or aircraft operated by air travel clubs. These aircraft are shown in separate tables.

TABLE 5.5
REVENUE LOAD CAPACITY OF THE U.S. CERTIFICATED ROUTE AIR CARRIERS:
DECEMBER 1968 THROUGH 1977

Year	Air Carrier Fleet ¹		Revenue Load Capacity (Tons)		
	Number (1)	Index (1968=100) (2)	Per Aircraft ² (3)	Total Fleet (1)x(3)	Index (1968=100)
1968	2,317	100.0	15.5	35,913.5	100.0
1969	2,423	104.6	16.2	39,252.6	109.3
1970	2,437	105.2	17.2	41,916.4	116.7
1971	2,389	103.1	18.5	44,196.5	123.1
1972	2,361	101.9	19.1	45,095.1	125.6
1973	2,361	101.9	20.0	47,220.0	131.5
1974	2,244	96.8	20.7	46,450.8	129.3
1975	2,267	97.8	21.0	47,607.0	132.6
1976	2,271	98.0	21.2	48,145.2	134.1
1977	2,234	96.4	21.6	48,254.4	134.4

¹ Office of Management Systems, Federal Aviation Administration.

² Bureau of Accounts and Statistics, CAB.

TABLE 5.6
REVENUE LOAD CAPACITY OF HELICOPTERS IN THE U.S. CERTIFICATED
ROUTE AIR CARRIER FLEET: DECEMBER 1968 THROUGH 1977

Year	Helicopter Fleet ¹		Revenue Load Capacity (Tons)		
	Number (1)	Index (1968=100) (2)	Per Aircraft ² (3)	Total Fleet (1)x(3)	Index (1968=100)
1968	16	100.0	2.4	38.4	100.0
1969	18	112.5	2.3	41.4	107.8
1970	16	100.0	2.2	35.2	91.7
1971	14	87.5	2.2	30.8	80.2
1972	14	87.5	2.3	32.2	83.9
1973	13	81.3	2.3	29.9	77.9
1974	10	62.5	2.3	23.0	59.9
1975	7	43.8	2.4	16.8	43.8
1976	5	31.3	2.4	12.0	31.3
1977	3	18.8	2.4	7.2	18.8

¹ Office of Management Systems, Federal Aviation Administration.

² Bureau of Accounts and Statistics, CAB.

TABLE 5.7
AIRCRAFT IN OPERATION BY CERTIFICATED ROUTE AIR CARRIERS BY TYPE OF AIRCRAFT
AND NUMBER OF ENGINES: DECEMBER 1968 THROUGH 1977¹

Type of Aircraft	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total	2,317	2,423	2,437	2,389	2,361	2,361	2,244	2,267	2,271	2,234
Fixed-wing--total	2,301	2,405	2,421	2,375	2,347	2,348	2,234	2,260	2,266	2,231
4-engine	928	919	951	879	793	735	612	578	556	506
Turbojet	778	840	891	847	768	712	594	561	533	500
Turboprop	128	61	55	29	22	20	17	16	21	6
Piston	22	18	5	3	3	3	1	1	2	---
3-engine	516	605	631	651	738	844	893	961	992	1,035
2-engine	835	870	825	831	803	754	717	714	708	690
Turbojet	406	528	519	530	522	500	501	500	518	529
Turboprop	281	261	256	255	234	218	184	177	159	150
Piston	148	81	50	46	47	36	32	37	31	11
1-engine	22	11	14	14	13	15	12	2	10	---
Turboprop	7	5	5	3	---	---	---	---	---	---
Piston	15	6	9	11	13	15	12	7	10	---
Rotary-wing--total	16	18	16	14	14	13	10	2	5	3
Turbine	13	15	13	11	11	10	10	7	4	3
Piston	3	3	3	3	3	3	---	---	1	---

¹ Excludes aircraft not used in air carrier operations (such as those used for crew training and general utility purposes and aircraft held for disposal).

TABLE 5.8
AIRCRAFT IN OPERATION BY CERTIFICATED ROUTE AIR CARRIERS BY MAKE AND MODEL:
DECEMBER 31, 1968 THROUGH 1977¹

Aircraft Make and Model	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total	<u>2,317</u>	<u>2,423</u>	<u>2,437</u>	<u>2,389</u>	<u>2,361</u>	<u>2,361</u>	<u>2,244</u>	<u>2,267</u>	<u>2,271</u>	<u>2,234</u>
Turbojet--4-engine--total	<u>778</u>	<u>840</u>	<u>891</u>	<u>847</u>	<u>768</u>	<u>712</u>	<u>594</u>	<u>561</u>	<u>533</u>	<u>500</u>
Boeing 707	380	417	399	359	337	315	281	264	240	224
Boeing 720	134	127	115	106	56	44	30	23	18	15
Convair 990	6	---	---	---	---	---	---	---	---	---
Convair 880	41	41	41	41	41	37	---	---	---	---
Douglas DC8	217	254	257	236	227	207	180	177	171	154
Boeing 747	---	1	79	104	105	109	108	97	104	107
Lockheed L1329	---	---	---	1	1	---	---	---	---	---
Turbojet--3-engine--total	<u>516</u>	<u>605</u>	<u>631</u>	<u>651</u>	<u>738</u>	<u>844</u>	<u>893</u>	<u>961</u>	<u>992</u>	<u>1,035</u>
Boeing 727	516	605	631	638	662	710	724	765	793	836
Douglas DC10	---	---	---	13	59	86	103	121	122	122
Lockheed L1011	---	---	---	---	17	48	66	76	77	77
Turbojet--2-engine--total	<u>406</u>	<u>528</u>	<u>519</u>	<u>530</u>	<u>522</u>	<u>500</u>	<u>501</u>	<u>500</u>	<u>518</u>	<u>529</u>
Airbus A300	---	---	---	---	---	---	---	---	---	2
BAC111	60	60	59	58	58	31	36	30	31	31
Douglas DC9	260	316	327	334	329	335	329	337	349	355
Sud Caravelle	20	20	---	---	---	---	---	---	---	---
Boeing 737	66	132	133	133	134	134	136	133	138	141
Dassault MD20	---	---	---	5	1	---	---	---	---	---
Turboprop--4-engine--total	<u>128</u>	<u>61</u>	<u>55</u>	<u>29</u>	<u>22</u>	<u>20</u>	<u>17</u>	<u>16</u>	<u>21</u>	<u>6</u>
Canadair CL44	14	9	8	1	---	---	---	---	---	---
Lockheed L188	86	40	36	24	19	19	17	16	21	6
Lockheed L382	9	9	8	4	3	1	---	---	---	---
Vickers Viscount	19	3	3	---	---	---	---	---	---	---

TABLE 5.8 (Continued)
 AIRCRAFT IN OPERATION BY CERTIFICATED ROUTE AIR CARRIERS BY MAKE AND MODEL:
 DECEMBER 31, 1968 THROUGH 1977

Aircraft Make and Model	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Turboprop--1- and 2-engine--total	288	266	261	258	234	218	184	177	159	150
Beech BE99	---	---	3	5	1	---	---	3	3	---
Convair CV580/640	148	143	118	115	110	105	89	69	69	68
Convair 600	---	---	24	22	25	24	16	19	12	8
DeHavilland DHC6	6	9	6	8	13	9	8	21	18	14
Fairchild FH227	55	53	47	48	32	31	33	29	27	22
Fairchild FH27	47	36	35	34	29	24	15	10	7	4
Nihon YS11	9	17	21	21	22	23	21	23	23	23
Nord ND262	12	---	---	---	---	---	---	---	---	5
Pilatus PC6A, 6B	7	5	5	3	---	---	---	---	---	---
Short SC7	4	3	2	2	2	2	2	3	---	---
Swearingen SA226	---	---	---	---	---	---	---	---	---	6
Piston--4-engine--total	22	18	5	3	3	3	1	1	2	---
Douglas DC6, 6A, 6B	7	7	3	3	3	3	1	1	2	---
Douglas DC7, 7B, 7C	15	10	2	---	---	---	---	---	---	---
Lockheed L1049	---	1	---	---	---	---	---	---	---	---
Piston--2-engine--total	148	81	50	46	47	36	32	37	31	11
Convair 28-SACF	4	2	---	---	---	---	---	---	---	---
Convair 240	3	1	---	---	1	---	---	---	---	---
Convair 340	46	7	6	---	5	4	3	4	4	3
Convair 440	---	---	---	---	2	2	3	3	1	1
Curtiss C46, 20T	7	6	6	4	3	2	2	2	2	2
Douglas DC3, 3A	14	5	2	3	3	2	2	4	4	---
Gruiman 621/SAT6	19	13	12	12	11	6	6	5	4	---
Gruiman 644/44A	3	3	2	2	1	1	1	3	1	---
Gruiman 673	1	1	1	1	1	1	1	---	---	---
Martin 404	46	37	18	17	17	14	12	9	7	5
Other 2-engine piston	52	62	33	54	45	46	47	78	89	---

TABLE 5.8 (Continued)
AIRCRAFT IN OPERATION BY CERTIFICATED ROUTE AIR CARRIERS BY MAKE AND MODEL:
DECEMBER 31, 1968 THROUGH 1977¹

Aircraft Make and Model	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Piston--1-engine--total	15	6	9	11	13	15	12	7	10	---
Cessna 150/172/180	11	5	8	9	8	13	10	5	8	---
185/206/207	---	---	---	---	---	---	1	2	2	---
DeHavilland DH/DHC	2	---	---	---	3	---	---	---	---	---
Pilatus PC6	2 ¹⁰	1 ¹¹	1 ¹²	2 ¹³	2 ¹⁴	2 ¹⁵	1 ¹⁶	---	---	---
Other 1-engine piston	16	18	16	14	14	13	10	7	5	3
Helicopters--total	4	4	4	---	---	---	---	---	---	---
Boeing V107-II (Turbine)	8	8	6	8	7	7	7	7	4	3
Sikorsky S61 (Turbine)	1	---	---	---	---	---	---	---	---	---
Sikorsky S62 (Turbine)	3	3	3	3	3	3	---	---	---	---
Sikorsky S58	---	3	3	3	4	3	3	---	---	---
Bell 206	---	---	---	---	---	---	---	---	---	---
Miller UH125	---	---	---	---	---	---	---	---	1	---

- ¹ Aircraft not used in air carrier operations, such as those used for crew training and general utility purposes and aircraft held for disposal are excluded.
- ² Includes 3 Piper PA31's; 1 PA23; and 1 Aero Commander 680.
- ³ Includes 1 Aero Commander 680; 1 Cessna 402; and 1 Piper PA31.
- ⁴ Includes 2 Aero Commander AC680's; 1 AC500; 1 Cessna 402; and 1 Piper PA23.
- ⁵ Includes 1 Aero Commander AC500; and 3 Cessna CE402's.
- ⁶ Includes 1 Aero Commander AC500; 1 Cessna CE310; and 2 CE402's.
- ⁷ Includes 1 Aero Commander AC500; 1 Beech BE18; 1 Cessna CE310, and 1 CE402.
- ⁸ Includes 3 Aero Commander AC500's; 3 Beech BE18's; 1 Cessna C421.
- ⁹ Includes 3 Aero Commander AC500's; 2 Beech BE18's; 2 Britten-Norman BN2A's; 1 Dornier D028.
- ¹⁰ Includes 1 Helio HE250 and 1 Piper PA23.
- ¹¹ Piper PA28.
- ¹² Helio HE250.
- ¹³ Includes 1 Helio HE250 and 1 Piper PA28.
- ¹⁴ Includes 1 Piper PA28 and 1 Helio HE250.
- ¹⁵ Includes 1 Helio HE250 and 1 Piper PA28.
- ¹⁶ Includes 1 Piper PA29.

TABLE 5.9
TOTAL FLIGHT TIME BY TYPE OF AIRCRAFT IN THE
U.S. AIR CARRIER FLEET: 1976 AND 1977

Type of Aircraft, Number of Engines, and Model	Hours		Type of Aircraft, Number of Engines, and Model	Hours	
	1977	1976		1977	1976
Total aircraft	6,684,622	6,344,300	Turbojet (continued)	937,826	907,681
Fixed-wing aircraft--total	6,677,199	6,338,778	Douglas DC9	2,310	3,208
Turbine-powered--total	6,502,075	6,188,286	Grunder G1159	1,415	726
4-engine--total	1,770,950	1,749,028	Lear Jet LR23	300	273
Turbojet--total	1,644,925	1,693,527	Lear Jet LR24	141	---
Boeing 707	670,239	740,197	Lear Jet LR25	5,643	5,675
Boeing 720	56,901	60,047	Lear Jet LR35	3,381	2,029
Boeing 747	405,014	362,466	Rockwell International NA265	613	478
Convair CV22	603	378	Sud Aviation S210	116	---
Douglas DC8	511,797	529,885			
Lockheed L1329	371	554			
Turboprop--total	126,025	55,501	Turboprop--total	353,444	341,957
Lockheed L188	68,514	36,928	Beech BE99	143	3,743
Lockheed L382	57,511	18,573	Convair CV580	139,083	138,820
3-engine--total	2,916,795	2,696,064	Convair CV600	9,952	18,472
Turbojet--total	2,916,795	2,696,064	Convair CV640	16,203	8,474
Boeing B727	2,303,950	2,126,692	DeHavilland DHC6	30,272	36,880
Douglas DC10	390,646	365,104	Fairchild F27	9,172	13,729
Lockheed L1011	222,199	204,268	Fairchild F227	37,203	43,591
2-engine--total	1,814,330	1,743,194	Grunder G159	3,211	545
Turbojet--total	1,460,886	1,401,237	Hawker Siddley HS748	2,111	2,580
Airbus A300	1,128	---	Nord ND262	40,575	18,758
Boeing B737	358,152	331,093	Nihon YS11	56,747	55,028
British Aircraft BAC111	75,260	75,790	Short SC7	---	905
Convair CV30	1,792	1,232	Short S0330	3,465	432
Dassault M020	71,785	71,916	Short S03	953	---
DeHavilland DHC125	1,024	1,136	Swearingen SA226	4,354	---
			Piston-powered--total	175,124	150,492
			4-engine--total	36,205	22,481
			Douglas DC4	1,473	2,232
			Douglas DC6	34,356	21,064
			Douglas DC7	231	1,185
			Lockheed L1049	145	---

TABLE 5.9 (Continued)
TOTAL FLIGHT TIME BY TYPE OF AIRCRAFT IN THE
U.S. AIR CARRIER FLEET: 1976 AND 1977

Type of Aircraft, Number of Engines, and Model	Hours		Type of Aircraft, Number of Engines, and Model	Hours	
	1977	1976		1977	1976
Piston-powered (continued)					
2-engine--total	134,030	121,847	1-engine--total	4,889	6,164
Britten-Norman BN2A	4,409	1,165	Cessna CE185	565	1,236
Aero Commander AC500	---	967	Cessna CE206	1,343	1,599
Aero Commander AC680	856	758	Cessna CE207	1,910	1,933
Beech BE18	395	891	DeHavilland DHC2	828	783
Cessna CE402	272	---	DeHavilland DHC3	243	613
Cessna CE421	---	33	Rotary-wing--total	7,423	5,522
Convair CV240	---	24	Turbine-powered--total	7,423	5,522
Convair CV340/440	8,232	10,355	Sikorsky S61	7,423	5,522
Curtiss-Wright CW46	12,432	9,747			
Dornier D028	448	294			
Douglas DC3	88,836	75,798			
Fairchild C82	1,764	1,812			
Grunman G21	1,893	2,980			
Grunman G44	1,103	1,485			
Grunman G73	---	275			
Martin M404	13,203	15,263			
Piper PA23	31	---			
Piper PA34	156	---			

TABLE 5.10
TOTAL FIXED-WING AIRCRAFT IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS
BY CARRIER AND BY ENGINE TYPE: DECEMBER 31, 1977

Air Carrier Group and Carrier	Total Turbine and Piston	Turbine						Piston			
		Total Turbine	Turbojet			Turboprop		Total Piston	4-Engine	2-Engine	1-Engine
			4-Engine	3-Engine	2-Engine	4-Engine	2-Engine				
Total	2,231	2,220	500	1,035	529	6	150	---	11	---	---
Domestic passenger/cargo--total	2,097	2,086	379	1,022	529	6	150	---	7	---	---
Trunk carriers--total ¹	1,623	1,623	379	1,007	234	3	---	---	---	---	---
American	245	245	93	152	---	---	---	---	---	---	---
Braniff	92	92	15	77	---	---	---	---	---	---	---
Continental	57	57	---	57	---	---	---	---	---	---	---
Delta	189	189	23	113	53	---	---	---	---	---	---
Eastern	239	239	---	150	86	3	---	---	---	---	---
National	53	53	---	53	---	---	---	---	---	---	---
Northwest	110	110	23	87	---	---	---	---	---	---	---
Trans World	206	206	97	96	13	---	---	---	---	---	---
United	355	355	108	188	59	---	---	---	---	---	---
Western	77	77	20	34	23	---	---	---	---	---	---
Local service carriers--total	415	411	---	6	27	---	135	---	---	---	---
Air New England	17	17	---	---	---	---	17	---	---	---	---
Allegheny	94	94	---	---	80	---	14	---	---	---	---
Frontier	53	53	---	---	23	---	30	---	---	---	---
Hughes Air West	43	43	---	3	36	---	4	---	---	---	---
North Central	53	53	---	---	28	---	25	---	---	---	---
Ozark	44	44	---	---	30	---	14	---	---	---	---
Piedmont Aviation	44	44	---	3	20	---	21	---	---	---	---
Southern	38	34	---	---	28	---	6	---	---	---	---
Texas International	29	29	---	---	25	---	4	---	---	---	---

TABLE 5.10 (Continued)
TOTAL FIXED-WING AIRCRAFT IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS
BY CARRIER AND BY ENGINE TYPE: DECEMBER 31, 1977

Air Carrier Group and Carrier	Total Turbine and Piston	Turbine						Piston			
		Total Turbine	Turbojet			Turboprop		Total Piston	4-Engine	2-Engine	1-Engine
			4-Engine	3-Engine	2-Engine	4-Engine	2-Engine				
Intra-Alaska carriers--total	269	239	---	99	7	3	4	3	---	3	---
Alaska Airlines			---	9	---	---	---	---	---	---	---
Kodiak-Western Alaska Airlines	1	---	---	---	---	---	---	---	---	1	---
Munz Northern	---	5	---	---	---	3	2	2	---	2	---
Reeve Aleutian	9	9	---	---	7	---	---	---	---	---	---
Wien Air Alaska			---	---	---	---	---	---	---	---	---
Intra-Hawaii carriers--total	189	189	---	---	189	---	---	---	---	---	---
Aloha	9	9	---	---	9	---	---	---	---	---	---
Hawaiian	9	9	---	---	9	---	---	---	---	---	---
International and territorial passenger/cargo--total	100	100	87	13	---	---	---	---	---	---	---
Pan American	100	100	87	13	---	---	---	---	---	---	---
All-cargo carriers--total	34	34	34	---	---	---	---	---	---	---	---
Airlift International	13	13	13	---	---	---	---	---	---	---	---
Flying Tiger	15	15	15	---	---	---	---	---	---	---	---
Seaboard World	6	6	6	---	---	---	---	---	---	---	---
Other--total	15	11	---	---	---	---	11	4	---	4	---
Aspen	10	7	---	---	---	---	7	3	---	3	---
Wright	5	4	---	---	---	---	4	1	---	1	---

1 All trunk carriers except United have both domestic and international/territorial operating certificates.

TABLE 5.11
FOUR-ENGINE TURBINE-POWERED FIXED-WING AIRCRAFT IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS
BY CARRIER AND BY MANUFACTURER AND MODEL: DECEMBER 31, 1977¹

Carrier Group and Carrier	Total 4-Engine Turbine Aircraft	Turbojet				Total Turboprop Lockheed L188
		Total Turbojet	Boeing		Douglas DC8	
			707/720	747		
Total	506	500	239	107	154	6
Domestic passenger/ cargo--total	385	379	192	60	127	6
Trunk carriers--total ²	382	379	192	60	127	3
American	93	93	82 ³	11	---	---
Braniff	15	15	---	1	14	---
Delta	23	23	---	---	23	---
Eastern	3	---	---	---	---	3
Northwest	23	23	2 ³	21	---	---
Trans World	97	97	88 ³	9	---	---
United	108	108	---	18	90	---
Western	20	20	20 ⁴	---	---	---
Local service carriers-- total	---	---	---	---	---	---
Intra-Alaska carriers-- total	3	---	---	---	---	3
Intra-Hawaii carriers-- total	---	---	---	---	---	---
International and territorial passenger/ cargo--total	87	87	47	40	---	---
Pan American	87	87	47 ³	40	---	---
All-cargo carriers--total	34	34	---	7	27	---
Airlift International	13	13	---	5	8	---
Flying Tiger	15	15	---	---	15	---
Seaboard World	6	6	---	2	4	---

¹ All carriers constituting this group are listed in Table 5.10.

² All trunk carriers except United have both domestic and international/territorial operating certificates.

³ Boeing B707.

⁴ Boeing B707 (5); B720 (15).

TABLE 5.12

TWO- AND THREE-ENGINE TURBINE-POWERED FIXED-WING AIRCRAFT IN CERTIFICATED
AIR CARRIER OPERATIONS BY CARRIER AND BY MANUFACTURER AND MODEL: DECEMBER 31, 1977¹

Carrier Group and Carrier	Total Turbine Aircraft	Total 3-Engine Turboprop 8727, DC10 L1011	Total 2-Engine Turboprop and Turboprop	Total 2-Engine Turboprop	Boeing 737	Turboprop Douglas DC9	Other	Total 2-Engine Turboprop	Convair CV580/ 600	Turboprop Fairchild F27/F227	Other
Total	1,703	1,035	668	529	141	355	33	139	76	26	37
Domestic passenger/cargo--total	1,690	1,022	668	529	141	355	33	139	76	26	37
Trunk carriers--total²	1,241	1,007	234	234	82	150	2	---	---	---	---
American	152	152 ³	---	---	---	---	---	---	---	---	---
Brantiff	77	77 ⁴	---	---	---	---	---	---	---	---	---
Continental	57	57 ⁵	---	---	---	---	---	---	---	---	---
Delta	166	113 ⁶	53	53	---	53	---	---	---	---	---
Eastern	236	150 ⁷	86	86	---	84	2 ⁸	---	---	---	---
National	53	53 ⁸	---	---	---	---	---	---	---	---	---
Northwest	87	87 ⁹	---	---	---	---	---	---	---	---	---
Trans World	109	96 ¹⁰	13	13	---	13	---	---	---	---	---
United	247	188 ¹¹	59	59	59	---	---	---	---	---	---
Western	57	34 ¹²	23	23	23	---	---	---	---	---	---
Local service carriers--total	400	6	394	270	43	196	31	124	65	24	35
Air New England	17	---	17	---	---	---	---	17	---	6 ¹⁷	11 ¹⁹
Allegheny	89	---	89	80	---	49	31 ¹⁴	9	9 ¹⁵	---	---
Frontier	53	---	53	23	23	---	---	30	27 ¹⁵	4 ¹⁸	3 ¹⁹
Hughes Air West	43	3 ⁴	40	36	---	36	---	4	---	---	---
North Central	53	---	53	28	---	28	---	25	25 ¹⁵	---	---
Ozark	44	---	44	30	---	30	---	14	---	14 ¹⁷	---
Piedmont Aviation	44	3	41	20	20	---	---	21	---	---	21 ²⁰
Southern	28	---	28	28	---	28	---	---	---	---	---
Texas International	29	---	29	25	---	25	---	4	4 ¹⁶	---	---
Intra-Alaska--total	20	9	11	7	7	---	---	4	---	2	2
Alaska Airlines	9	9 ⁴	---	---	---	---	---	---	---	---	---
Reeve Aleutian	2	---	2	---	---	---	---	---	---	---	2 ²⁰
Wien Air Alaska	9	---	9	7	7	---	---	2	---	2 ¹⁷	---
Intra-Hawaii--total	18	---	18	18	9	9	---	---	---	---	---
Aloha	9	---	9	9	9	---	---	---	---	---	---
Hawaiian	9	---	9	9	---	---	---	---	---	---	---

TABLE 5.12 (Continued)
TWO- AND THREE-ENGINE TURBINE-POWERED FIXED-WING AIRCRAFT IN CERTIFICATED
AIR CARRIER OPERATIONS BY CARRIER AND BY MANUFACTURER AND MODEL: DECEMBER 31, 1977¹

Carrier Group and Carrier	Total Turbine Aircraft	Total 3-Engine Turboprop B727, DC10 L1011	Total 2-Engine Turboprop and Turboprop	Total 2-Engine Turboprop	Boeing 737	Turboprop Douglas DC9	Other	Total 2-Engine Turboprop	Convair CV580/ 600	Turboprop Fairchild F27/F227	Other
International/territorial passenger/cargo--total	13	13	---	---	---	---	---	---	---	---	---
Pan American	13	13	---	---	---	---	---	---	---	---	---
Other--total	11	---	11	---	---	---	---	11	715	---	---
Aspen	7	---	7	---	---	---	---	7	416	---	---
Wright	4	---	4	---	---	---	---	4	---	---	---

- ¹ All carriers constituting this group are listed in Table 5.10.
² All trunk carriers except United have both domestic and international/
territorial operating certificates.
³ Boeing B727 (127); Douglas DC10 (25).
⁴ Boeing B727.
⁵ Boeing B727 (41); Douglas DC10 (16).
⁶ Boeing B727 (92); Lockheed L1011 (21).
⁷ Boeing B727 (119); Lockheed L1011 (31).
⁸ Boeing B727 (38); Douglas DC10 (15).
⁹ Boeing B727 (65); Douglas DC10 (22).
¹⁰ Boeing B727 (71); Lockheed L1011 (25).
¹¹ Boeing B727 (151); Douglas DC10 (37).
¹² Boeing B727 (27); Douglas DC10 (7).
¹³ Airbus A300.
¹⁴ British Aircraft BA111.
¹⁵ Convair CV580.
¹⁶ Convair CV600.
¹⁷ Fairchild F227.
¹⁸ Fairchild F27.
¹⁹ DeHavilland DHC6.
²⁰ Nihon YS11.

TABLE 5.13
PISTON-POWERED AIRCRAFT IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS BY CARRIER
AND BY MANUFACTURER AND MODEL: DECEMBER 31, 1977¹

Carrier Group and Carrier	Total Piston Aircraft	4-Engine Douglas DC6	2-Engine		1-Engine	
			G21/44 BE18	Other	Cessna 185/206/207	Other
Domestic passenger/cargo--total ²	11	---	---	10	---	---
Local service carriers--total	4	---	---	4	---	---
Air New England	---	---	---	---	---	---
Southern	4	---	---	4 ³	---	---
Intra-Alaska carriers--total	3	---	---	3	---	---
Kodiak-Western Alaska Airlines	1	---	---	1 ³	---	---
Munz Northern	---	---	---	---	---	---
Reeve Aleutian	2	---	---	2 ⁴	---	---
Other--total	4	---	---	4	---	---
Aspen	3	---	---	3 ⁵	---	---
Wright	1	---	---	1 ⁶	---	---

¹ All carriers constituting this group are listed in Table 5.10.
² Domestic passenger/cargo was the only service to utilize piston-powered aircraft.
³ Martin M404.
⁴ Curtiss-Wright CW46.
⁵ Convair CV340.
⁶ Convair CV440.

TABLE 5.14
HELICOPTERS IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS
BY CARRIER AND BY MANUFACTURER AND MODEL: DECEMBER 31, 1977

Carrier	Total	Turbine Sikorsky S61	Piston Hiller UH12E
Total	3	3	---
New York Airway	3	3	---
Munz Northern	---	---	---

TABLE 5.15
AIRCRAFT IN OPERATION BY SUPPLEMENTAL CARRIERS BY TYPE OF AIRCRAFT:
DECEMBER 31, 1968-1977

Aircraft Type	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total aircraft in operation	<u>146</u>	<u>149</u>	<u>119</u>	<u>114</u>	<u>100</u>	<u>94</u>	<u>73</u>	<u>74</u>	<u>77</u>	<u>78</u>
4-engine--total	<u>108</u>	<u>106</u>	<u>94</u>	<u>92</u>	<u>85</u>	<u>79</u>	<u>58</u>	<u>60</u>	<u>69</u>	<u>61</u>
Turbojet	37	44	40	42	42	37	32	33	42	36
Turboprop	31	37	48	47	43	41	26	27	27	23
Piston	40	25	6	3	---	1	---	---	---	2
3-engine--total	<u>12</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>4</u>	<u>9</u>	<u>7</u>	<u>8</u>	<u>3</u>	<u>5</u>
Turbojet	12	9	9	9	4	9	7	8	3	5
2-engine--total	<u>26</u>	<u>34</u>	<u>16</u>	<u>13</u>	<u>11</u>	<u>6</u>	<u>8</u>	<u>6</u>	<u>5</u>	<u>12</u>
Turbojet	4	10	11	8	7	5	5	4	3	3
Turboprop	---	---	---	---	1	1	---	---	1	5
Piston	22	24	5	5	3	---	3	2	1	4

TABLE 5.16
AIRCRAFT IN OPERATION BY SUPPLEMENTAL CARRIERS BY TYPE OF AIRCRAFT:
DECEMBER 31, 1977

Name of Carrier	Total Aircraft	Turbojet			Turboprop		Piston	
		4-Engine	3-Engine	2-Engine	4-Engine	2-Engine	4-Engine	2-Engine
		B720, B747	DC8	DC10	L188, L382	CV580	DC6	CW46
Total	78	1	35	5	23	5	2	4
Capitol International Airways	13	---	13	---	---	---	---	---
Evergreen International Airlines	15	---	4	---	2 ¹	5	---	1
McCulloch International Airlines	3	---	---	---	3 ¹	---	---	---
Overseas National Airlines	8	---	6	2	---	---	---	---
Rich International	5	---	---	---	---	---	2	3
Trans International Airlines	28	---	7	3	18 ²	---	---	---
World Airways	6	1 ³	5	---	---	---	---	---

- 1 Lockheed L188.
2 Lockheed L188 (9); L382 (12).
3 Boeing B747.

TABLE 5.17
AIRCRAFT IN OPERATION BY COMMERCIAL CARRIERS BY TYPE OF AIRCRAFT:
DECEMBER 31, 1968 THROUGH 1977

Aircraft Type	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total aircraft in operation	<u>123</u>	<u>118</u>	<u>123</u>	<u>139</u>	<u>122</u>	<u>144</u>	<u>155</u>	<u>154</u>	<u>144</u>	<u>161</u>
4-engine--total	<u>29</u>	<u>36</u>	<u>30</u>	<u>39</u>	<u>39</u>	<u>52</u>	<u>60</u>	<u>69</u>	<u>63</u>	<u>70</u>
Turbojet	<u>1</u>	<u>2</u>	<u>---</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>8</u>
Turboprop	<u>8</u>	<u>13</u>	<u>7</u>	<u>13</u>	<u>14</u>	<u>13</u>	<u>24</u>	<u>25</u>	<u>21</u>	<u>31</u>
Piston	<u>20</u>	<u>21</u>	<u>23</u>	<u>25</u>	<u>24</u>	<u>38</u>	<u>30</u>	<u>36</u>	<u>35</u>	<u>31</u>
3-engine--total	<u>15</u>	<u>14</u>	<u>19</u>	<u>18</u>	<u>17</u>	<u>26</u>	<u>23</u>	<u>25</u>	<u>27</u>	<u>29</u>
Turbojet	<u>15</u>	<u>14</u>	<u>19</u>	<u>18</u>	<u>17</u>	<u>26</u>	<u>23</u>	<u>25</u>	<u>27</u>	<u>29</u>
2-engine--total	<u>79</u>	<u>68</u>	<u>74</u>	<u>82</u>	<u>66</u>	<u>66</u>	<u>72</u>	<u>59</u>	<u>53</u>	<u>61</u>
Turbojet	<u>12</u>	<u>16</u>	<u>16</u>	<u>26</u>	<u>19</u>	<u>11</u>	<u>17</u>	<u>14</u>	<u>14</u>	<u>23</u>
Turboprop	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>11</u>	<u>15</u>	<u>15</u>	<u>16</u>	<u>19</u>
Piston	<u>64</u>	<u>49</u>	<u>55</u>	<u>53</u>	<u>43</u>	<u>44</u>	<u>40</u>	<u>30</u>	<u>23</u>	<u>19</u>
1-engine--total	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>1</u>	<u>1</u>	<u>1</u>
Piston	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>1</u>	<u>1</u>	<u>1</u>

TABLE 5.18

AIRCRAFT IN OPERATION BY COMMERCIAL AIR CARRIER OPERATORS BY CARRIER AND BY MANUFACTURER AND MODEL:

DECEMBER 31, 1977

Name of Carrier	Total Aircraft	Turbojet		Turboprop		Piston			
		4- and 3-Engine	2-Engine	4-Engine	2-Engine	4-Engine		2-Engine	
						DC4, DC6, DC7	Other	CM46, DC3	Other
Total	161	37	23	31	19	30	1	12	7
Aeroamerica, Inc.	3	31	---	---	---	---	---	---	---
Air California	12	---	9 ²³	3 ²	---	---	---	---	---
Air Distribution, Inc.	1	---	---	---	---	1 ³	---	---	---
Air Florida, Inc.	4	---	4 ²³	---	---	---	---	---	---
Air Illinois, Inc.	1	---	---	---	1 ⁵	---	---	---	---
Alaska International Air, Inc.	5	---	---	5 ⁷	---	---	---	---	---
Central American International, Inc.	2	---	---	---	---	---	1 ⁸	1 ⁹	---
Cryderman Air Service, Inc.	1	---	---	---	---	---	---	1 ⁹	---
Fairways Corporation	1	---	---	---	1 ¹⁰	---	---	---	---
Fleming International Airways, Inc.	5	---	---	4 ²	---	1 ¹¹	---	---	---
Great Northern Airlines, Inc.	4	---	---	3 ²	---	---	---	1 ¹³	---
Maverick International, Inc.	1	1 ²¹	---	---	3 ¹⁴	---	---	---	---
Mountainwest Aviation, Inc.	3	---	---	---	---	---	---	---	2 ¹⁵
Musica City International Airways, Inc.	2	---	---	---	---	2 ¹⁶	---	---	2 ¹⁷
Northern Air Cargo, Inc.	4	---	---	---	---	---	---	---	---
Pacific Alaska Airlines	3	---	---	---	---	3 ¹⁶	---	---	---
Pacific American Airlines, Inc.	2	---	---	---	---	2 ¹⁶	---	---	---
Pacific Southwest Airlines	32	29 ⁴	---	3 ²	---	---	---	---	---
Petroleum Air Transport, Inc.	4	---	---	---	---	1 ¹⁶	---	---	3 ¹⁸
Rosenbalm Aviation, Inc.	10	2 ⁶	---	---	---	8 ¹⁶	---	---	---
Shaw Flight Service, Inc.	2	---	---	---	---	---	---	1 ⁹	1 ¹⁹
Southern Air Transport, Inc.	3	---	---	3 ⁷	---	---	---	---	---
Southwest Airlines	10	---	10 ²²	---	---	---	---	8 ¹³	---
Transcontinental Airlines, Inc.	10	---	---	2 ²	---	---	---	---	---
Zantop International Airlines, Inc.	36	2 ⁶	---	8 ²	14 ²⁰	12 ¹⁶	---	---	---

1 Boeing B720
 2 Lockheed L188
 3 Douglas DC4
 4 Boeing B727
 5 Hawker Siddley HS748
 6 Douglas DC8
 7 Lockheed L382
 8 Lockheed L1049
 9 Douglas DC3
 10 Grumman G159
 11 Douglas DC7
 12 Lockheed L1329
 13 Curtiss-Wright CM46
 14 Convair CV550
 15 Convair CV440
 16 Douglas DC6
 17 Fairchild C82
 18 Martin M404
 19 Cessna C185
 20 Convair CV640
 21 Boeing B707
 22 Boeing B737
 23 Douglas DC9

TABLE 5.19

AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS¹:

DECEMBER 31, 1977

Name of Carrier	Total All Engines	Turbojet 2-Engine		Turboprop		Piston				Rotor- craft S61
		G1159, DH125, HF320, WA265	LR23, LR25, LR35, MD20	4-Engine L188	2-Engine CV580, G159, ND262, SD330	4-Engine DC6	2-Engine		1-Engine BE18	
							DC3	CW46, M404, CV340, CV440		
Total	261	12	62	1	29	2	121	30	1	3
Academy Airlines	3	---	---	---	---	---	3	---	---	---
Aero-Dyne Airlines, Inc.	4	---	---	---	---	---	4	---	---	---
Aero Virgin Island Corp.	4	---	---	---	---	---	4	---	---	---
Air North, Inc.	1	---	---	---	---	---	1	---	---	---
Altair Airlines, Inc.	6	---	---	---	6 ²	---	---	---	---	---
American Cyanamid Co.	2	1 ³	1 ⁴	---	---	---	---	---	---	---
American Inter Island, Inc.	4	---	---	---	---	---	---	4 ¹³	---	---
Argosy Airlines, Inc.	4	---	---	---	---	---	3	---	1	---
Atlantic Jet Charter, Inc.	1	---	1 ⁵	---	---	---	---	---	---	---
ATT Airlines, Inc.	6	---	---	---	---	---	4	2 ¹³	---	---
Aviation Methods, Inc.	1	---	1 ¹⁰	---	---	---	---	---	---	---
Baron Aviation Services, Inc.	3	---	---	---	---	---	3	---	---	---
Basler Flight Services, Inc.	2	---	---	---	---	---	2	---	---	---
Boise Cascade Corp.	2	---	2 ⁵	---	---	---	---	---	---	---
Bo-S-Aire Corp.	2	---	---	---	---	---	2	---	---	---
Caribbean Air Service	5	---	---	---	---	---	---	5 ⁷	---	---
Central American Air Taxi, Inc.	1	---	---	---	---	---	1	---	---	---
Christler Flying Service, Inc.	3	---	---	---	---	---	3	---	---	---
Chrysler Corporation Air Transportation	1	1 ³	---	---	2 ⁸	---	---	---	---	---
Command Airways, Inc.	2	---	---	---	---	---	---	---	---	---
Commuter Express	11	---	---	---	---	---	11	---	---	---
Crystal Shamrock, Inc.	2	---	---	---	---	---	2	---	---	---
Era Helicopters, Inc.	4	2 ⁹	---	---	---	---	---	---	---	2
Evergreen Helicopters of Alaska, Inc.	1	---	---	---	---	---	---	---	---	1
Evergreen of Montana, Inc.	2	---	---	---	---	---	2	---	---	---

TABLE 5.19 (Continued)

AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS¹:

DECEMBER 31, 1977

Name of Carrier	Total All Engines	Turbojet 2-Engine		Turboprop		Piston				Rotor- craft S61
		GI159, DH125 HF320, NA265	LR23, LR25 LR35, MD20	4-Engine L188	2-Engine CV580, G159 ND262, SD330	4-Engine DC6	2-Engine		1-Engine BE18	
							DC3	CM46, M404 CV340, CV440		
Executive Air Fleet Corp. Falcon Airways, Inc. Federal Express Corp. Florida Airlines, Inc. Global Air Enterprises, Inc. Golden State Airlines, Inc. Golden West Airlines, Inc. Hansa Jet Corp. Henson Aviation, Inc. Jet Aviation Ltd.	8	3 ³	5 ¹⁰	---	---	---	---	---	---	---
	5	---	---	---	---	---	5	---	---	---
	32	---	32 ¹⁰	---	---	---	---	---	---	---
	9	---	---	---	---	---	7	2 ¹⁴	---	---
	1	---	1 ⁴	---	---	---	---	---	---	---
	1	---	---	---	---	---	1	---	---	---
	1	---	---	---	1 ⁸	---	---	---	---	---
	1	---	1 ¹⁰	---	1 ⁸	---	---	---	---	---
	1	---	---	---	1 ²⁰	---	---	---	---	---
	1	---	---	---	---	---	---	---	---	---
Jet Fleet Corp. Jimsair Aviation Services, Inc. Key Airlines, Inc. Mackey International Airlines Mannion Air Charter, Inc. Marco Island Airways, Inc. Meridian Air Cargo, Inc. Metrolina Air Service, Inc. Midwest Air Charter, Inc. Mountain West Charters, Inc.	12	2 ¹¹	9 ¹²	---	1 ²⁰	---	---	---	---	---
	2	---	---	---	---	---	2	---	---	---
	3	---	---	---	---	---	---	3 ¹³	---	---
	5	---	---	---	---	2	---	3 ¹³	---	---
	3	---	---	---	---	---	3	---	---	---
	5	---	---	---	---	---	---	5 ¹⁴	---	---
	6	---	---	---	---	---	6	---	---	---
	1	---	---	---	---	---	---	1 ¹⁸	---	---
	3	3 ¹⁶	---	---	---	---	---	---	---	---
	1	---	---	---	---	---	1	---	---	---
Nation Jet Service, Inc. Nevada Airlines, Inc. Old South Air Service, Inc. Pinehurst Airlines, Inc. Presidential Airways, Inc.	2	---	---	---	---	---	2	---	---	---
	3	---	---	---	---	---	3	---	---	---
	5	---	---	---	---	---	5	---	---	---
	6	---	---	---	---	---	6	---	---	---
	2	---	2 ⁴	---	---	---	---	---	---	---
	---	---	---	---	---	---	---	---	---	---

TABLE 5.19 (Continued)

AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS¹:

DECEMBER 31, 1977

Name of Carrier	Total All Engines	Turbojet 2-Engine		Turboprop		Piston				Rotor- craft S61	
				4-Engine	2-Engine	4-Engine DC6	2-Engine		1-Engine BE18		
							DC3	CW46, M404, CV340, CV440			
Professional Air Charter, Inc.	2	---	---	---	---	---	---	---	2	---	---
Provincetown-Boston Airline	14	---	---	---	---	---	---	---	9	5 ¹⁴	---
Raleigh-Durham Aviation, Inc.	1	---	1 ⁴	---	---	---	---	---	---	---	---
Ransome Airlines	9	---	---	---	9 ²	---	---	---	---	---	---
Red Carpet Flying Service, Inc.	3	---	---	---	---	---	---	---	3	---	---
Royal Industries	1	---	1 ¹⁰	---	---	---	---	---	---	---	---
Sedalia, Marshall, Boonville Stage Lines, Inc.	6	---	---	---	---	---	1 ¹⁵	---	6	---	---
Sierra Pacific Airlines, Inc.	1	---	---	---	---	---	---	---	1	---	---
Skyfreight	1	---	---	---	---	---	---	---	1	---	---
Skyway Aviation, Inc.	1	---	---	---	---	---	---	---	1	---	---
Southeast Airlines, Inc.	1	---	---	---	---	1	---	---	---	---	---
Southern Flyer, Inc.	3	---	---	---	---	---	---	---	3	---	---
Stevens Beechcraft, Inc.	2	---	2 ¹⁰	---	---	---	---	---	---	---	---
Summit Airlines, Inc.	3	---	---	---	---	---	---	---	3	---	---
Swift Aire, Inc.	3	---	---	---	---	---	3 ²	---	---	---	---
Thunderbird Airways, Inc.	2	---	2 ⁶	---	---	---	---	---	---	---	---
Transwest Air Express	6	---	---	---	---	---	---	---	6	---	---
Vero Monmouth Airlines, Inc.	1	---	---	---	---	---	---	---	1	---	---
Windstar Aviation Corp.	1	---	1 ⁶	---	---	---	---	---	---	---	---
Zantop Airways, Inc.	4	---	---	---	---	---	4 ²⁰	---	---	---	---

¹ Aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 lbs., or turbojet aircraft exempted under blanket authority.

² Nord MD262

³ Grumman G1159

⁴ Lear Jet LR25

⁵ Lear Jet LR25

⁶ Lear Jet LR25

⁷ Curtiss-Wright CW46

⁸ Short SD330

⁹ DeHavilland DH125

¹⁰ Dassault MD20

¹¹ Rockwell International NA265

¹² Dassault MD20 (3); Lear Jet LR25 (6).

¹³ Convair CV440

¹⁴ Martin M404

¹⁵ Convair CV580

¹⁶ Hamburger Flugzeugbau HR320

¹⁷ Lear Jet LR25 (1); Lear Jet LR35 (1).

¹⁸ Convair CV340

¹⁹ Grumman G159

TABLE 5.20
AIRCRAFT IN OPERATION BY AIR TRAVEL CLUBS:
DECEMBER 31, 1977

Name of Carrier	Total Aircraft	Turbojet	Turboprop	Piston
		4-Engine	4-Engine	2-Engine
		B707/720, DC8, CV880/990, SE210	L188	CV240, DC3, M404, SE210
Total	<u>22</u>	<u>15</u>	<u>3</u>	<u>4</u>
Air Vulcan Travel Club	1	---	---	1 ³
Ambassador, Inc.	1	1 ¹	---	---
Atlanta Skylarks	2	2 ⁷	---	---
Bird of the Sun Air Travel Club	1	---	---	1 ⁵
Emerald Shillelagh Chowder and Marching Society, Inc.	1	---	1	---
Fiesta Air Travel Club	1	1 ¹	---	---
Florida Air Travel Assoc., Inc.	1	1 ²	---	---
Four Winds, Inc. dba INDY AIR	1	1 ²	---	---
Great Valley Travel Club, Inc.	1	---	---	1 ³
Jet Set Travel Club, Inc.	1	1 ¹	---	---
Jetaway Air Travel Club, Inc.	1	1 ²	---	---
Magic Carpet Air Travel Club, Inc.	1	---	---	1 ⁶
Nomads, Inc.	2	1 ²	1	---
Pegasus Int'l Travel Club	1	1 ⁴	---	---
Ports of Call Travel Club	5	4 ²	1	---
Sundance Air Travel Club, Inc.	1	1 ⁴	---	---

¹ Boeing B707/720
² Convair CV880/990
³ Convair CV240
⁴ Douglas DC8

⁵ Douglas DC3
⁶ Martin M202/404
⁷ 1 Boeing B707/720 and 1 Caravelle SE210

VI. U.S. CIVIL AIR CARRIER OPERATING DATA

The air carrier data contained in this chapter were obtained from the following CAB sources:

Financial Data--Air Carrier Financial Statistics, published quarterly.

Traffic Data--Air Carrier Traffic Statistics, published monthly.

Supplemental Carrier Data--Air Carrier Analytical Charts and Supplemental Carrier Statistics, published quarterly.

Starting with the year 1970, data contained herein for domestic operations are compiled on a 50-states basis.

TABLE 6.1

TRAFFIC DATA, SCHEDULED SERVICE OF CERTIFICATED

ROUTE AIR CARRIERS: 1976 AND 1977

Traffic Category	Total Scheduled Service		Scheduled Domestic Service		Scheduled International/ Territorial Service	
	1976	1977	1976	1977	1976	1977
Revenue passenger-miles flown (000) ¹	178,988,026 ⁺	193,218,837	145,271,283 ⁺	156,609,267	33,716,743	36,609,570
First class	26,795,385 ⁺	27,995,594	24,399,999 ⁺	25,440,651	2,395,386	2,554,943
Coach and economy	152,192,640	165,223,244	120,871,281 ⁺	131,168,617	31,321,359	34,054,627
Available seat miles (000)	322,821,649	345,566,005	261,247,796	280,619,019	61,573,853	64,946,986
Revenue passenger load factor ²	(55.4)	(55.9)	(55.6)	(55.8)	(54.8)	(56.4)
Revenue passenger enplanements (000)	223,318	240,326	206,279 ⁺	222,283	17,039	18,043
Revenue ton-miles flown (000) ¹	24,120,934 ⁺	25,908,773	18,154,965 ⁺	19,537,790	5,965,969	6,370,983
Passenger	17,898,810 ⁺	19,321,839	14,527,134 ⁺	15,660,881	3,371,676	3,660,958
Freight	5,074,193 ⁺	5,385,130	2,887,765 ⁺	3,084,178	2,186,428	2,300,952
Express	22,003	41,417	21,510	40,479	493	938
U.S. mail	1,114,239	1,147,324	717,373	750,673	396,866	396,651
Foreign mail	11,682	13,058	1,178	1,575	10,504	11,483
Revenue aircraft-miles flown (000) ¹	2,319,997 ⁺	2,418,652	2,001,387 ⁺	2,103,805	318,610	314,847
All passenger service	2,215,082	2,322,844	1,947,426	2,048,530	267,656	274,314
All cargo service	104,913	95,813	53,960	55,278	50,953	40,535

⁺ Revised.¹ Details may not add to total due to rounding.² Percent revenue passenger-miles flown of available seat-miles in revenue passenger service representing the proportion of aircraft seating capacity that is actually sold and utilized.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.2
TRAFFIC DATA, NONSCHEDULED SERVICE OF CERTIFICATED ROUTE AIR CARRIERS: 1976 AND 1977

Traffic Category	Total Nonscheduled Service (000)		Nonscheduled Domestic Service (000)		Nonscheduled International Territorial Service (000)	
	1976	1977	1976	1977	1976	1977
Revenue passenger-miles	12,834,732+	12,888,590	6,108,697+	6,610,967	6,746,035	6,277,623
Available seat-miles	15,526,758+	15,617,498	7,995,603+	8,578,753	7,531,155	7,038,745
Revenue ton-miles flown ¹	1,588,220+	1,674,174	646,926+	731,700	941,294	942,474
Passenger	1,285,558+	1,285,196	610,878+	661,775	674,680	623,421
Freight	302,661+	388,977	36,049+	69,924	266,585	319,053
Available ton-miles	2,383,006+	2,505,057	1,056,829+	1,194,238	1,327,177	1,310,819
Revenue aircraft miles flown . .	99,294+	106,451	50,227+	58,210	49,067	48,241
Revenue passenger enplanements .	5,160+	5,447	3,306+	3,638	1,854	1,809

+ Revised.

¹ Details may not add to total due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.3
REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN SCHEDULED DOMESTIC SERVICE OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1968	4,956,741	1,715,857	4,604,160	373
1969	5,058,371	2,000,269	5,082,555	390
1970	4,776,584	2,013,484	5,746,058	350
1971	4,680,612	1,992,807	4,925,995	405
1972	4,726,047	1,986,758	4,917,997	404
1973	4,805,141	2,040,407	5,051,158	404
1974	4,433,705	1,883,265	4,693,521	401
1975	4,456,146	1,909,486	4,735,970	403
1976	4,598,152+	2,001,387+	4,929,240+	406
1977	4,710,459	2,103,805	5,154,383	408

+ Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.4
REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN
SCHEDULED INTERNATIONAL/TERRITORIAL SERVICE OF PASSENGER/CARGO
CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1968	367,960	408,136	858,123	476
1969	295,489	359,476	753,347	477
1970	299,529	369,870	767,440	482
1971	292,515	350,744	728,331	482
1972	292,995	350,112	729,613	480
1973	297,153	361,481	751,773	481
1974	260,932	330,248	686,704	481
1975	248,564	331,020	686,450	482
1976	234,512	318,610	658,536	484
1977	223,633	314,847	646,005	487

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.5
TOTAL TON-MILES AVAILABLE IN ALL SERVICES OF THE UNITED STATES
AIR CARRIERS: 1968 THROUGH 1977 (Thousands of Ton-Miles)

Year	Total Available Ton-Miles	Certificated Route Air Carriers			Supplemental Air Carriers
		Total	Domestic Operations	International and Territorial Operations	
1968	39,394,041	37,223,332	25,375,666	11,847,666	2,170,709
1969	45,246,411	42,770,192	32,020,042	10,750,150	2,476,219
1970	46,273,427	44,298,170	32,580,842	11,717,328	1,975,257
1971	49,584,516	47,255,550	33,994,418	13,261,132	2,328,966
1972	50,867,516	48,680,473	34,877,554	13,802,919	2,187,043
1973	53,966,736	51,443,758	37,371,558	14,072,200	2,522,978
1974	51,153,441	48,941,526	35,565,908	13,375,618	2,211,915
1975	51,215,945	49,288,695	36,511,214	12,777,481	1,927,250
1976	53,521,569†	51,708,842†	38,819,097†	12,889,745†	1,812,727
1977	56,775,836	54,789,420	41,412,649	13,376,771	1,986,416

† Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.6
REVENUE TON-MILES FLOWN IN ALL SERVICES BY CERTIFICATED ROUTE
AIR CARRIERS OF THE UNITED STATES: 1968 THROUGH 1977
(Thousands of Tons)

Year	Certificated Route Air Carriers		
	Total ¹	Domestic Operations	International/ Territorial Operations
1968	18,114,334	11,461,603	6,652,731
1969	19,989,409	13,942,994	6,046,417
1970	20,185,500	13,876,803	6,308,694
1971	20,905,968	14,141,786	6,764,182
1972	22,805,371	15,584,558	7,220,813
1973	23,927,657	16,707,015	7,220,642
1974	23,900,208	16,999,202	6,901,006
1975	23,533,743	17,069,474	6,464,269
1976	25,709,152 ⁺	18,801,891 ⁺	6,907,261
1977	27,582,944	20,269,490	7,313,454

⁺ Revised.

¹ Categories may not add to total due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.7
TOTAL NON-MILES AVAILABLE IN SCHEDULED SERVICE OF THE CERTIFICATED
ROUTE AIR CARRIERS: 1968 THROUGH 1977 (Thousands of Ton-Miles)

Year	Total Available Ton-Miles	Domestic Operations			International/Territorial Operations		
		Total	Passenger or Cargo Operations	All Cargo Carriers	Total	Passenger or Cargo Operations	All Cargo Carriers
1968	33,221,260	24,400,004	24,055,733	344,271	8,821,256	8,490,489	330,767
1969	38,663,697	30,544,280	30,125,957	418,323	8,119,417	7,534,997	584,420
1970	41,692,872	31,832,719	31,340,228	492,491	9,860,153	8,952,755	907,398
1971	44,138,742	33,210,930	32,688,215	522,715	10,927,812	9,934,594	993,218
1972	45,583,056	34,037,816	33,447,467	590,349	11,545,240	10,417,800	1,127,440
1973	49,019,300	36,622,737	35,796,002	826,735	12,396,563	11,148,088	1,248,475
1974	46,848,194	34,852,546	34,030,377	822,169	11,995,648	10,713,196	1,282,452
1975	47,254,436	35,694,516	34,978,118	716,398	11,559,920	10,149,968	1,409,952
1976	49,324,836 ⁺	37,762,270 ⁺	37,024,605 ⁺	737,665	11,562,566	10,128,805	1,433,761 ⁺
1977	52,284,366	40,218,413	39,435,941	782,472	12,065,953	10,672,803	1,393,150

⁺ Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.8
REVENUE TON-MILES FLOWN IN SCHEDULED SERVICE OF THE CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	Total Revenue Ton-Miles Scheduled	Domestic Operations			International/Territorial Operations		
		Total	Passenger/Cargo Carriers	All Cargo Carriers	Total	Passenger/Cargo Carriers	All Cargo Carriers
1968	15,249,312	10,725,703	10,526,928	198,775	4,523,609	4,294,499	229,110
1969	16,898,218	12,830,573	12,615,450	215,123	4,067,645	3,699,324	368,321
1970	18,165,661	13,345,048	13,086,322	258,726	4,820,613	4,247,362	573,251
1971	18,685,307	13,628,704	13,353,000	275,704	5,056,603	4,388,559	668,044
1972	20,746,190	15,065,840	14,729,594	336,246	5,680,350	4,912,784	767,566
1973	22,241,875	16,239,873	15,743,457	496,416	6,002,002	5,164,020	837,982
1974	22,425,208	16,553,354	16,062,715	490,639	5,871,854	5,005,447	866,407
1975	22,185,546	16,602,980	16,169,542	433,438	5,582,566	4,679,319	903,247
1976	24,120,934 ⁺	18,154,965 ⁺	17,709,697 ⁺	445,268	5,965,969	5,043,985	921,984
1977	25,908,773	19,537,790	19,041,949	495,841	6,370,983	5,427,710	943,273

⁺ Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.9
REVENUE TON-MILES FLOWN IN SCHEDULED DOMESTIC PASSENGER/CARGO SERVICE OF THE CERTIFICATED ROUTE
AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	Total		Passenger	Excess Baggage ³	Mail	Express and Freight
	Number ¹	Load Factor ²				
1968	10,526,928	43.8	8,362,488	21,163	564,186	1,579,091
1969	12,615,450	41.9	9,897,465	23,358	800,814	1,916,472
1970	13,086,332	41.8	10,414,764	---	705,666	1,965,904
1971	13,353,000	40.8	10,643,399	---	696,780	2,012,818
1972	14,729,594	44.0	11,813,493	---	676,062	2,240,039
1973	15,743,457	44.0	12,631,705	---	658,237	2,453,517
1974	16,062,715	47.2	12,973,216	---	667,577	2,421,926
1975	16,169,542	46.2	13,172,873	---	665,493	2,331,176
1976	17,709,697 ⁺	47.8	14,527,134 ⁺	---	707,657 ⁺	2,474,902 ⁺
1977	19,041,949	48.3	15,660,881	---	740,022	2,641,042

† Revised.
1 Categories may not add to total due to rounding.
2 Percent total revenue ton-miles flown of available ton-miles in revenue services.
3 Effective January 1, 1970, the certificated carriers no longer reported excess baggage separately.
Excess baggage is now combined with passenger ton-miles and passenger weight standardized at 200 lbs.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.10
REVENUE TON-MILES FLOWN IN SCHEDULED INTERNATIONAL/TERRITORIAL SERVICE OF THE PASSENGER/CARGO
CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	Total		Passenger	Excess Baggage ³	Mail	Express and Freight
	Number ¹	Load Factor ²				
1968	4,294,499	50.6	2,660,995	26,897	679,357	927,250
1969	3,699,324	49.1	2,299,767	26,824	463,009	936,554
1970	4,247,363	47.4	2,756,510	---	548,845	942,008
1971	4,388,559	44.2	2,922,094	---	456,683	1,009,785
1972	4,912,784	47.2	3,427,026	---	371,656	1,114,104
1973	5,164,020	46.3	3,563,995	---	361,440	1,238,584
1974	5,005,447	46.7	3,318,630	---	347,762	1,339,056
1975	4,679,319	46.1	3,108,173	---	311,707	1,259,439
1976	5,043,985	49.8	3,371,676	---	291,682	1,380,132 ⁺
1977	5,427,710	50.9	3,660,958	---	298,990	1,466,844

⁺ Revised.

¹ Categories may not add to total due to rounding.

² Percent total revenue ton-miles flown of available ton-miles in revenue services.

³ Effective January 1, 1970, the certificated carriers no longer reported excess baggage separately. Excess baggage is now combined with passenger ton-miles and passenger weight standardized at 200 lbs.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.11
REVENUE TON-MILES FLOW IN SCHEDULED DOMESTIC SERVICE OF THE ALL-CARGO
CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	Total		Freight	Express	Mail
	Number ¹	Load Factor ²			
1968	198,775	57.7	194,011 ³	1,576	3,187
1969	215,123	51.4	208,058	1,530	5,535
1970	258,726	52.5	247,877	1,713	9,136
1971	275,704	52.7	263,075	1,838	10,792
1972	336,246	57.0	324,666	2,056	9,526
1973	496,416	60.0	466,053	2,023	28,340 ⁴
1974	490,639	59.7	464,584	1,650	24,405
1975	433,438	60.5	414,700	958 ⁵	17,780
1976	445,268	60.4	434,307	66	10,895
1977	495,841	63.4	483,554	61	12,226

- ¹ Details may not add to total due to rounding.
² Percent total revenue ton-miles flow of available ton-miles in revenue services.
³ Includes 6,000 revenue passenger ton-miles.
⁴ Increase between CY 1972 and CY 1973 resulted primarily from inauguration of mail container service by Flying Tiger on 3/28/73.
⁵ Express revenue ton-miles have been affected drastically as a result of the dissolution of REA Express during the month of November 1975.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.12
REVENUE TON-MILES FLOWN IN SCHEDULED INTERNATIONAL/TERRITORIAL SERVICE OF THE
ALL-CARGO CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	Total		Freight	Express	Mail
	Number ¹	Load Factor ²			
1968	229,111	69.3	208,097	12	21,002
1969	368,320	63.0	287,810	8	80,502
1970	573,251	63.2	356,502	62	216,687
1971	668,044	67.3	507,716	51	160,278
1972	767,566	68.1	623,981	28	143,557
1973	837,982	67.1	676,959	90	160,933
1974	866,407	67.6	743,420	235	122,754
1975	903,247	64.1	788,966	70 ³	114,211
1976	921,984	64.3	806,296	--- ³	115,688
1977	943,273	67.7	834,108	--- ³	109,164

¹ Categories may not add to total due to rounding.

² Percent total revenue ton-miles flown of available ton-miles in revenue services.

³ Express revenue ton-miles have been affected drastically as a result of the dissolution of REA Express during the month of November 1975.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.13
DOMESTIC AIR CARGO REVENUE TON-MILES FLOWN, BY TYPE OF CARRIER: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	Total All Carriers ¹	Scheduled Passenger/Cargo Carriers			Scheduled All-Cargo Carriers			Supplemental Carriers
		Total ¹	Scheduled	Non-scheduled	Total ¹	Scheduled	Non-scheduled	
1968	2,325,358	1,643,748	1,579,091	64,657	376,559	195,581	180,978	305,057
1969	2,519,811	2,097,201	1,916,472	180,729	394,112	209,588	184,524	256,202
1970	2,580,757	2,003,193	1,965,904	37,289	292,145	249,590	42,555	285,419
1971	2,747,227	2,141,650	2,012,818	128,832	299,972	264,913	35,059	305,605
1972	2,972,708	2,344,840	2,240,039	104,800	369,022	326,722	42,300	258,846
1973	3,267,003	2,470,232	2,453,517	16,717	505,187	468,076	37,111	291,584
1974	3,221,250	2,431,660	2,421,926	9,733	508,415	466,234	42,182	279,986
1975	3,020,247	2,312,235	2,303,388	8,847	445,251	414,700	30,551	262,761
1976	3,161,302 ⁺	2,471,508 ⁺	2,453,458	18,050 ⁺	452,306	434,307	17,999	237,488
1977	3,389,599	2,647,097	2,600,624	46,473	507,005	483,554	23,451	235,497

⁺ Revised.

¹ Categories may not add to totals due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

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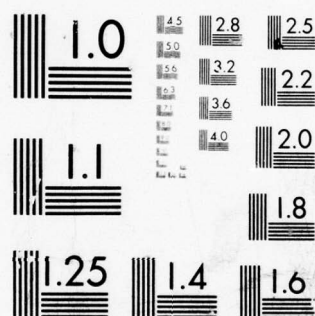
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TABLE 6.14

U.S. MAIL AND AIR CARGO REVENUE TON-MILES FLOWN IN SCHEDULED DOMESTIC SERVICE OF THE
PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	U.S. Mail			Air Cargo		
	Total	Priority	Nonpriority	Total	Freight	Express
1968	564,173	300,524	263,649	1,579,091	1,476,686	102,405
1969	800,814	365,221	435,593	1,916,472	1,808,987	107,485
1970	705,241	364,252	340,989	1,965,904	1,861,610	104,294
1971	696,331	362,199	334,132	2,012,818	1,932,243	80,575
1972	675,524	363,527	311,997	2,240,039	2,155,432	84,607
1973	657,429	410,024	247,405	2,453,517	2,355,856	97,661
1974	666,663	539,488	127,174	2,421,926	2,343,823	78,103
1975	664,374	529,095	135,279	2,331,176	2,303,388	27,788 ¹
1976	706,479	572,319	134,163	2,474,884	2,453,440	21,444 ¹
1977	783,447	NA ²	NA ²	2,641,042	2,600,624	40,418

¹ Express revenue ton-miles have been affected drastically as a result of the dissolution of REA Express during the month of November 1975.

² Figures not available at time of publication.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.15

U.S. AND FOREIGN MAIL AND AIR CARGO REVENUE TON-MILES FLOWN IN SCHEDULED INTERNATIONAL/TERRITORIAL
SERVICE OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Ton-Miles)

Year	Mail			Air Cargo		
	Total	U.S. Priority and Foreign	U.S. Nonpriority	Total	Freight	Express
1968	679,357	283,817	395,540	927,250	926,091	1,159
1969	463,099	205,419	257,680	936,554	936,110	444
1970	548,845	210,157	338,688	942,008	941,563	445
1971	456,683	200,091	256,592	1,009,785	1,099,254	531
1972	371,656	181,689	189,967	1,114,104	1,113,373	731
1973	361,440	165,513	195,927	1,238,584	1,237,861	723
1974	347,762	163,947	183,815	1,339,056	1,338,199	857
1975	311,707	158,399	153,308	1,259,439	1,259,065	374 ¹
1976	291,682	151,552	140,130	1,380,625	1,380,132	493 ¹
1977	298,970	NA ²	NA ²	1,467,782	1,466,844	938

¹ Express revenue ton-miles have been affected drastically as a result of the dissolution of REA Express during the month of November 1975.

² Figures not available at time of publication.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.16
REVENUE PASSENGER ENPLANEMENTS IN SCHEDULED SERVICE OF THE CERTIFICATED ROUTE
AIR CARRIERS: 1973 THROUGH 1977
(Thousands of Enplanements)

Type of Carrier	1973	1974	1975	1976	1977
Total	<u>202,208</u>	<u>207,458</u>	<u>205,062</u>	<u>223,318</u> ⁺	<u>240,326</u>
Domestic passenger/cargo	183,272 ¹	189,733 ²	188,746 ³	206,274	222,283
Trunk lines	144,753	147,999	147,428	160,451	172,231
Local service	32,450	35,200	34,436	38,362	42,396
Helicopter	613	592	505	444	268
Intra-Alaska	933	1,110	1,442	1,562	1,454
Intra-Hawaii	4,373	4,675	4,767	5,262	5,724
Other	150 ¹	157 ²	168 ³	198 ⁺	212
International and territorial passenger/cargo	18,936	17,725	16,316	17,039	18,043

⁺ Revised.

¹ Includes 90 enplanements for Aspen Airways, and 60 for Wright Air Lines, Inc.

² Includes 95 enplanements for Aspen Airways, and 62 for Wright Air Lines, Inc.

³ Includes 114 enplanements for Aspen Airways, and 54 for Wright Air Lines, Inc.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.17
PASSENGER OPERATIONS IN SCHEDULED DOMESTIC SERVICE OF CERTIFICATED
ROUTE AIR CARRIERS: 1968 THROUGH 1977

Year	Revenue Passenger Enplanements ¹ (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor ²	Average On-Line Passenger Trip-Length (Miles)	Average Passenger Revenue Per Passenger-Miles (Cents)
1968	134,423	87,507,677	166,870,750	52.4	651	5.61
1969	142,340	102,717,425	206,434,270	49.8	722	5.90
1970	153,662	104,155,983	212,943,866	48.9	678	6.00
1971	156,195	106,438,408	221,503,165	48.1	681	6.33
1972	172,452	118,137,978	226,614,145	52.1	685	6.40
1973	183,272	126,317,334	244,699,119	51.6	689	6.63
1974	189,733	129,732,395	233,880,101	55.5	684	7.52
1975	188,746	131,728,492	241,282,125	54.6	698	7.69
1976	206,279 ⁺	143,271,283 ⁺	261,247,796 ⁺	55.6	704	8.16
1977	222,283	156,609,267	280,619,019	55.8	704	8.61

⁺ Revised

¹ Prior to 1970 data were shown as revenue passenger originations.

² Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.18
PASSENGER OPERATIONS IN SCHEDULED INTERNATIONAL AND TERRITORIAL SERVICE
OF THE CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977

Year	Revenue Passenger Enplanements ¹ (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor (Percent) ²	Average On-Line Passenger Trip Length (Miles)	Average Passenger Revenue Per Passenger-Miles (Cents)
1968	15,728	26,450,644	49,575,001	53.4	1,682	4.95
1969	18,603	22,702,695	44,411,659	51.1	1,220	4.95
1970	16,260	27,563,211	51,959,992	53.0	1,695	5.01
1971	17,474	29,219,294	58,320,186	50.1	1,672	5.08
1972	18,897	34,268,298	60,797,069	56.4	1,813	4.98
1973	18,936	35,639,973	65,897,988	54.1	1,882	5.32
1974	17,725	33,186,199	63,125,961	52.6	1,872	6.39
1975	16,316	31,081,668	61,724,118	50.4	1,905	7.17
1976	17,039	33,716,743	61,573,853	54.8	1,979	7.15
1977	18,043	36,609,570	64,946,986	56.4	2,029	7.61

¹ Prior to 1970, data were shown as revenue passenger originations.

² Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.19
COACH PLUS ECONOMY PASSENGER OPERATIONS IN SCHEDULED DOMESTIC SERVICE
OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977¹

Year	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor (Percent) ²	Coach Plus Economy Passenger-Miles as Percent of Total
1968	67,745,943	121,491,751	55.8	77.4
1969	81,732,619	155,247,875	52.6	79.6
1970	84,349,480	160,354,405	52.6	81.0
1971	87,068,135	166,419,971	52.3	81.8
1972	96,181,995	171,712,976	56.0	81.4
1973	102,753,267	186,879,821	55.0	81.3
1974	104,245,352	177,011,547	58.9	80.4
1975	108,106,295	184,483,964	58.6	82.1
1976	120,871,281	203,749,632	59.3	83.2
1977	131,168,617	221,658,610	59.2	83.8

¹ Economy service inaugurated July 1959. Intra-Alaska and Intra-Hawaii carriers have no coach or economy service. Data in this table are included in Table 6.18.

² Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.20

COACH PLUS ECONOMY PASSENGER OPERATIONS IN SCHEDULED INTERNATIONAL/TERRITORIAL
SERVICE OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977¹

Year	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor (Percent) ²	Coach Plus Economy Passenger-Miles as Percent of Total
1968	23,585,131	42,297,809	55.8	89.1
1969	20,202,474	37,897,380	53.3	89.0
1970	24,777,086	44,232,302	56.0	89.9
1971	26,582,499	50,225,661	52.9	91.0
1972	31,383,908	53,359,631	58.8	91.6
1973	32,758,604	58,223,313	56.3	91.9
1974	30,495,916	56,100,020	54.4	91.9
1975	28,756,207	55,034,477	52.3	92.5
1976	31,321,359	55,296,351	56.6	92.9
1977	34,054,627	58,560,002	58.2	93.0

¹ Data in this table are included in Table 6.19

² Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.21

REVENUE AIRCRAFT MILES FLOWN IN ALL SERVICES OF THE CERTIFICATED ROUTE AIR CARRIERS:
1968 THROUGH 1977 (Thousands of Aircraft Miles)

Year	Scheduled Service					Nonscheduled Service
	Total ¹	Passenger/Cargo			All-Cargo ²	
		First Class	Coach and Economy	Mixed Class		
1968	2,145,973	243,924	169,810	1,607,281	124,958	174,421
1969	2,384,888	225,161	181,677	1,836,679	141,350	169,858
1970	2,418,169	208,725	164,494	1,892,736	152,214	124,095
1971	2,377,858	233,212	144,078	1,859,886	140,682	131,589
1972	2,375,876	250,515	156,090	1,829,460	139,813	124,000
1973	2,448,114	283,505	179,259	1,839,991	145,358	107,609
1974	2,258,188	284,280	93,849	1,748,288	131,768	92,680
1975	2,240,506	284,520	80,614	1,758,571	116,799	84,187
1976	2,319,967	302,309	79,735	1,833,010	104,913	99,192
1977	2,402,511	319,346	86,359	1,917,140	79,666	81,705

¹ Details may not add to total due to rounding.

² Includes operations of the all-cargo carriers and all-cargo operations of the passenger/cargo carriers.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.22

REVENUE AIRCRAFT MILES FLOWN IN DOMESTIC OPERATIONS OF THE CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Aircraft Miles)

Year	Scheduled Service					Nonscheduled Service
	Total ¹	Passenger/Cargo			All Cargo ²	
		First Class	Coach and Economy	Mixed Class		
1968	1,727,409	237,796	135,226	1,282,268	72,119	60,963
1969	1,963,367	222,243	159,855	1,497,291	83,978	69,510
1970	2,109,417	206,107	152,315	1,572,189	88,806	40,059
1971	2,003,878	230,252	127,391	1,562,674	83,562	40,733
1972	1,999,530	247,178	136,155	1,534,138	82,059	42,224
1973	2,057,745	282,392	157,252	1,536,110	81,990	40,138
1974	1,900,584	284,280	77,991	1,468,763	69,549	37,457
1975	1,909,486	284,520	69,602	1,495,020	60,343	38,174
1976	2,001,357	302,309	68,576	1,576,512	53,960	50,125
1977	2,087,664	319,346	70,843	1,658,343	39,132	52,080

¹ Details may not add to total due to rounding.

² Includes operations of the all-cargo carriers and all-cargo operations of the passenger/cargo carriers.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.23

REVENUE AIRCRAFT MILES FLOWN IN INTERNATIONAL/TERRITORIAL OPERATIONS
BY CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Aircraft Miles)

Year	Scheduled Service					Nonscheduled Service
	Total ¹	Passenger/Cargo			All Cargo ²	
		First Class	Coach and Economy	Mixed Class		
1968	418,564	6,127	34,584	325,014	52,839	123,159
1969	374,141	2,918	21,822	339,388	57,372	100,348
1970	390,630	2,618	12,179	320,547	63,408	84,036
1971	373,980	2,960	16,687	297,212	57,120	90,856
1972	376,346	3,337	19,935	295,322	57,754	81,776
1973	390,369	1,113	22,007	303,881	63,368	67,471
1974	357,604	---	15,858	279,525	62,219	55,223
1975	331,020	---	11,012	263,551	56,456	46,013
1976	318,610	---	11,159	256,498	50,953	49,067
1977	314,847	---	15,516	258,797	40,534	29,625

¹ Details may not add to total due to rounding.

² Includes operations of the all-cargo carriers and all-cargo operations of the passenger/cargo carriers.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.24
REVENUE AIRCRAFT MILES FLOWN IN SCHEDULED DOMESTIC SERVICE OF THE CERTIFICATED
ROUTE AIR CARRIERS BY TYPE OF CARRIER: 1968 THROUGH 1977
(Thousands of Aircraft Miles)

Year	Trunk	Local Service	Helicopter	Intra-Alaska ¹	Intra-Hawaii	All-Cargo	Other
1968	1,486,460	211,203	2,547	7,155	8,131	11,552	686
1969	1,747,185	227,603	1,910	7,438	8,697	10,456	7,436
1970	1,748,728	242,471	1,427	7,603	8,147	11,219	7,944
1971	1,727,414	241,911	1,048	7,823	7,276	11,071	7,335
1972	1,711,465	249,561	1,022	15,980	8,115	12,771	615
1973	1,743,427	270,677	1,085	15,487	8,965	17,338	766
1974	1,589,077	264,522	1,029	18,712	9,192	17,319	733
1975	1,599,008	262,807	873	22,678	9,154	14,128	838
1976	1,673,216	280,093	709	22,953 ⁺	9,364	14,089	963 ⁺
1977	1,755,550	299,066	468	21,916	9,624	16,145	1,036

⁺ Revised.
¹ Commencing December 1972, data for Alaska Airlines are included in Intra-Alaska.
Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.25

U.S. SUPPLEMENTAL AIR CARRIER OPERATIONS: 1975 THROUGH 1977

Item	1975	1976	1977
Revenue aircraft miles (000)	65,546	62,774+	67,699
Commercial	37,412	38,306+	46,436
Military	28,134	24,468+	21,263
Revenue passenger originations (000)	2,352	2,192	2,794
Revenue passenger miles (000)	8,745,849	8,199,053	9,983,404
Commercial	6,884,588	6,647,466	8,352,086
Military	1,861,261	1,551,587	1,631,318
Available seat-miles (000)	9,955,995	9,264,160	11,537,720
Revenue cargo ton-miles (000)	361,756	384,133	329,920
Commercial	115,288	159,242	143,507
Military	246,468	224,891	186,413
Available ton-miles (000)	1,927,250	1,812,727	1,986,416
Operating revenue (\$000)	433,160	417,480	516,158
Transport	410,674	398,656	474,640
Contract and charter			
Commercial	287,257	291,181	359,896
Military	123,264	107,237	114,140
Other	150	239	604
Other than transport ¹	22,488	18,827	41,515
Operating expenses (\$000)	405,791	418,086	500,783
Operating profit or loss (\$000)	27,373	-599	15,370
Number of operators	9	7	10

+ Revised.

¹ Details of transport revenue are at variance with reported total by \$5,000 in 1975, \$4,000 in 1976, and \$3,000 in 1977.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.26
OPERATING REVENUE OF SCHEDULED DOMESTIC PASSENGER/CARGO OPERATORS,
CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Dollars)

Year	Total Operating Revenues [†]		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1968	5,606,144	100.0	4,912,679	87.6	185,575	3.3	343,371	6.1	8,943	0.2	155,576	2.8
1969	6,856,964	100.0	5,943,446	86.7	221,773	3.2	432,292	6.3	11,699	0.2	247,754	3.6
1970	7,130,716	100.0	6,246,426	87.6	204,639	2.9	460,714	6.5	12,134	0.1	206,801	2.9
1971	7,701,402	100.0	6,736,350	87.5	224,283	2.9	485,182	6.3	13,562	0.2	242,027	3.1
1972	8,587,996	100.0	7,564,841	88.1	228,031	2.7	541,346	6.3	12,842	0.1	240,936	2.8
1973	9,604,652	100.0	8,379,396	87.3	257,745	2.7	615,099	6.4	14,289	0.1	338,124	3.5
1974	11,448,289	100.0	9,757,503	85.2	259,419	2.3	672,957	5.9	16,581	0.1	741,829	6.5
1975	11,910,894	100.0	10,113,091	84.9	185,336	1.6	696,135	5.8	18,863	0.2	897,469	7.5
1976	13,789,178	100.0	11,855,266	86.0	214,125	1.6	830,051	6.0	22,014+	0.2	867,722+	6.3
1977	15,688,665	100.0	13,487,649	86.0	261,571	1.7	960,842	6.1	20,912	0.1	957,691	6.1

† Revised
 1 Details may not add to total due to rounding.
 Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.27
OPERATING EXPENSES OF SCHEDULED DOMESTIC PASSENGER/CARGO OPERATORS,
CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Dollars)

Year	Total Operating Expense ¹		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss
			Flight Operations		Maintenance Flight Equipment		Depreciation and Amortization Flight Equipment and Other				
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
1968	5,298,033	100.0	1,505,374	28.4	911,528	17.2	532,193	10.0	2,348,938	44.4	308,111
1969	6,533,214	100.0	1,917,591	29.4	1,041,497	15.9	686,091	10.5	2,886,035	44.2	323,749
1970	7,127,747	100.0	2,098,250	29.4	1,127,161	15.8	745,279	10.5	3,157,056	44.3	2,970
1971	7,443,222	100.0	2,235,004	30.0	1,124,526	15.2	749,077	10.1	3,334,614	44.7	258,181
1972	8,096,695	100.0	2,324,560	28.7	1,239,456	15.3	773,823	9.6	3,758,854	46.4	491,300
1973	9,116,173	100.0	2,605,723	28.6	1,397,007	15.3	834,607	9.2	4,278,836	46.9	488,479
1974	10,648,991	100.0	3,297,164	31.0	1,499,920	14.1	865,229	8.1	4,986,680	46.8	799,298
1975	11,781,406	100.0	3,869,405	32.8	1,595,358	13.6	882,569	7.5	5,434,073	46.1	129,488
1976 [†]	13,213,448	100.0	4,401,280	33.3	1,802,164	13.6	920,144	7.0	6,089,859	46.1	575,730
1977	15,034,879	100.0	5,228,701	34.8	1,986,068	13.2	959,666	6.4	6,860,445	45.6	653,786

[†] Revised
¹ Details may not add to total due to rounding.
Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.28
OPERATING REVENUES OF SCHEDULED INTERNATIONAL/TERRITORIAL PASSENGER/CARGO OPERATORS,
CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Dollars)

Year	Total Operating Revenues ¹		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1968	1,949,766	100.0	1,309,173	67.2	127,321	6.5	185,856	9.5	15,823	0.8	311,593	16.0
1969	1,689,397	100.0	1,176,349	69.6	91,769	5.4	185,502	11.0	14,232	0.9	221,536	13.1
1970	1,913,592	100.0	1,380,388	72.1	103,303	5.4	197,031	10.3	15,109	0.8	217,760	11.4
1971	2,080,262	100.0	1,483,973	71.4	90,188	4.3	220,553	10.6	15,672	0.8	269,874	12.9
1972	2,284,300	100.0	1,706,512	74.7	77,378	3.4	242,354	10.6	14,459	0.6	243,599	10.7
1973	2,526,878	100.0	1,894,914	75.0	71,366	2.8	268,055	10.6	15,231	0.6	277,314	11.0
1974	2,921,607	100.0	2,121,651	72.6	83,595	2.9	335,704	11.5	20,965	0.7	359,693	12.3
1975	3,063,399	100.0	2,230,081	72.9	89,793	2.9	355,805	11.6	25,476	0.8	362,245	11.8
1976	3,316,136	100.0	2,410,987	72.9	77,620	2.3	382,053	11.5	27,259	0.8	418,217	12.6
1977	3,774,262	100.0	2,785,706	73.8	79,582	2.1	425,296	11.3	20,797	0.6	462,882	12.3

¹ Details may not add to total due to rounding.

Source: Bureau of Carrier Accounts and Statistics, CAB.

TABLE 6.29
OPERATING EXPENSES OF SCHEDULED INTERNATIONAL/TERRITORIAL PASSENGER/CARGO OPERATIONS,
CERTIFICATED ROUTE AIR CARRIERS: 1968 THROUGH 1977
(Thousands of Dollars)

Year	Total Operating Expense ¹		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss
			Flying Operations		Maintenance Flight Equipment		Depreciation and Amortization Flight Equipment and Other				
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	
1968	1,747,946	100.0	495,025	28.3	244,316	14.0	180,881	10.3	827,723	47.4	201,820
1969	1,638,275	100.0	456,431	27.9	219,053	13.4	157,019	9.6	805,770	49.2	51,113
1970	1,894,398	100.0	515,182	27.2	241,077	12.7	187,889	10.0	950,241	50.2	19,202
1971	2,050,095	100.0	573,008	28.2	269,031	12.7	190,220	9.6	1,017,834	50.0	30,167
1972	2,233,879	100.0	595,859	26.7	300,476	13.4	211,908	9.5	1,125,635	50.4	50,421
1973	2,458,971	100.0	680,521	27.6	316,597	12.9	213,772	8.8	1,248,081	50.7	67,907
1974	2,994,713	100.0	1,037,441	34.6	356,187	12.0	213,966	7.1	1,387,119	46.3	-73,104
1975	3,059,348	100.0	1,050,250	34.3	363,869	11.9	212,456	7.0	1,432,774	46.8	4,051
1976	3,182,236	100.0	1,089,387	34.2	368,190	11.6	192,879	6.1	1,531,780	48.1	133,900
1977	3,552,189	100.0	1,170,021	32.9	414,486	11.7	238,009	6.7	1,729,672	48.7	222,072

¹ Details may not add to total due to rounding.

Source: Bureau of Carrier Accounts and Statistics, CAB.

VII. AIRMAN

Statistics pertaining to airmen, both pilot and nonpilot, were obtained from the official airmen certification records maintained by the Data Service Division of the FAA Aeronautical Center at Oklahoma City, Oklahoma.

TABLE 7.1
ACTIVE PILOT CERTIFICATES HELD: DECEMBER 31, 1968-1977

Category	1968	1969	1970	1971	1972	1973 ³	1974	1975	1976	1977
Pilot--total	691,695	720,028	732,729	741,009	750,869	714,607	733,728	728,187	744,246	783,932
Student	209,406	203,520	195,861	186,428	181,477	181,905	180,795	176,978	188,801	203,510
Private	281,728	299,491	303,779	312,556	321,413	298,921	305,848	305,863	309,005	327,424
Commercial	164,458	176,585	186,821	192,409	196,228	182,444	192,425	189,342	187,801	188,763
Airline transport	28,607	31,442	34,430	35,949	37,714	38,139	41,002	42,592	45,072	50,149
Helicopter (only)	3,166	4,286	6,677	7,992	7,987	5,968	5,647	4,932	4,804	4,819
Glider (only)*	2,193	2,627	3,114	3,571	4,080	4,288	4,824	5,348	5,789	6,208
Lighter-than-air*	2,137	2,077	2,047	2,004	1,970	2,942	3,187	3,132	2,974	3,059
Nonpilot--total	250,151	269,775	289,681	307,057	315,348	304,747	314,394	323,934	334,681	348,584
Mechanic	158,211	170,716	184,647	193,295	201,700	193,337	198,863	205,436	212,303	220,768
Parachute rigger ¹	5,700	6,070	6,424	6,839	7,287	6,941	7,900	8,327	8,718	8,994
Ground instructor ¹	37,889	41,234	44,176	46,145	48,450	46,827	49,249	51,365	53,464	55,717
Dispatcher ¹	4,766	5,026	5,293	5,480	5,637	5,527	5,576	5,741	5,838	5,972
Control tower operator	18,610	19,851	21,032	26,450	23,353	23,250	23,342	23,956	24,584	25,107
Flight navigator	2,966	3,011	2,950	3,052	2,957	2,636	2,509	2,321	2,214	2,155
Flight engineer	22,009	23,867	25,159	25,796	25,964	26,229	26,955	26,788	27,560	29,871
Flight instructor certificates	30,361	33,992	37,822	37,760	37,858	36,795	42,418	44,777	46,236	49,362
Instrument ratings ²	139,346	155,879	169,848	179,261	187,909	185,969	199,323	203,954	211,364	226,334

1 Numbers represent all certificates on record. No medical examination required.
2 Special ratings shown on pilot certificates, i.e., do not indicate additional certifications.
3 The decrease in the number of airmen resulted from a purging of the airmen certification files. During this process approximately 26,000 duplicates or faulty records were eliminated.
* Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above are the pilots who received a medical.

TABLE 7.2
WOMEN ACTIVELY ENGAGED IN AVIATION: DECEMBER 31, 1968-77

Category of Certificates	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Pilot--total	28,401	29,419	29,472	31,096	33,001	34,356	36,943	37,934	41,643	47,294
Student	16,234	16,055	15,787	16,417	17,053	18,593	19,298	19,600	22,254	25,705
Private	10,164	11,174	11,409	12,332	13,391	13,232	14,465	14,952	15,838	17,702
Commercial	1,691	1,824	1,897	2,032	2,196	2,083	2,596	2,733	2,857	3,090
Airline transport	71	76	79	88	101	95	116	137	160	193
Helicopter (only)	16	14	6	9	10	7	5	11	17	18
Glider (only) ¹	91	111	141	169	201	216	271	301	352	391
Lighter-than-air ¹	134	165	153	169	49	130	192	200	165	195
Nonpilot--total	2,707	2,912	3,078	3,413	3,594	3,074	3,471	3,809	4,252	4,716
Mechanic ¹	229	269	302	322	349	284	315	360	422	505
Parachute rigger ¹	445	449	461	470	483	336	495	504	516	535
Ground instructor ¹	1,769	1,917	2,006	2,081	2,166	1,960	2,139	2,249	2,369	2,525
Dispatcher ¹	30	36	38	39	40	39	42	50	55	65
Control tower operator	205	222	271	501	556	453	473	638	874	1,044
Flight engineer	28	18	---	---	---	2	7	8	16	42
Flight navigator	1	1	---	---	---	---	---	---	---	---
Flight instructor	531	560	589	646	664	618	834	945	1,054	1,238

¹ No medical examination required.

* Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above are the pilots who received a medical.

NOTE: Instrument ratings not reported.

TABLE 7.3
PILOT CERTIFICATES ISSUED, BY CATEGORY: CALENDAR YEARS 1973-77

Category of Certificates	1973		1974		1975		1976		1977	
	Original Issuances	Additional Ratings	Original Issuances	Additional Ratings	Original Issuances	Additional Ratings	Original Issuances	Additional Ratings	Original Issuances	Additional Ratings
Pilot--total	207,305	39,656	185,914	38,700	193,888	35,395	204,489	39,112	212,331	44,708
Student	131,384	---	113,997	---	127,424	---	129,280	---	138,816	---
Private	53,140	9,797	48,501	9,866	49,733	9,734	55,583	12,618	54,657	15,104
Commercial	16,769	24,823	17,693	24,638	12,620	21,860	13,577	22,059	11,121	22,806
Airline transport	3,224	4,391	3,219	3,557	2,765	3,370	3,869	3,901	5,697	6,229
Helicopter (only)	1,719	507	1,298	387	866	251	1,064	276	944	328
Glider (only)	892	131	832	244	230	158	848	238	792	220
Lighter-than-air	177	7	374	8	250	22	268	20	304	21
Non-pilot--total	15,857	8,514	12,410	7,777	12,491	7,137	15,069	7,751	16,066	7,267
Mechanic	8,355	3,329	6,618	2,748	6,930	2,606	8,501	3,149	9,121	3,307
Parachute rigger	418	63	468	83	414	62	454	76	304	36
Ground instructor	2,506	732	2,416	852	2,193	714	2,390	707	2,404	729
Dispatcher	135	---	152	---	140	1	106	---	161	---
Control tower operator	1,863	4,227	1,733	3,979	2,164	3,657	2,382	3,686	1,645	3,008
Flight navigator	70	---	7	1	4	---	2	---	16	---
Flight engineer	2,510	163	816	174	646	97	1,234	133	2,415	187
Flight instructor										
Certificates!	6,199	3,102	6,312	3,399	5,233	3,427	6,137	4,718	6,352	6,397
Instrument ratings*	---	19,649	---	19,012	---	16,495	---	18,155	---	18,764

1 Not included in total.

* Special ratings shown on pilot certificates represented above; not to be added to total.

NOTE: Additional ratings are entered on current airman certificates as follows:

Private, commercial, and airline transport pilot--aircraft category, class, and type instrument rating.

Helicopter pilot--instrument and type ratings.

Flight instructor--ratings for each aircraft category in which the holder is qualified and for instrument flying instruction.

Mechanic--airframe and powerplant ratings.

Parachute rigger--senior or master rigger ratings.

Ground instructor--ratings for each subject in which the holder is qualified to give instruction.

Air traffic control tower operator--junior/senior ratings for airports where holder may control air traffic.

TABLE 7.4
INSTRUMENT RATINGS ISSUED: 1977, 1976 AND 1973

Class of Certificate	1977	1976	1973	Percent Change 1976-1977
Total--all groups	<u>18,764</u>	<u>18,155</u>	<u>19,590</u>	+3
Private pilots--total	<u>8,986</u>	<u>6,686</u>	<u>4,587</u>	+34
Private airplane (only)	8,415	6,135	4,069	+37
Private airplane, private glider	127	92	65	+38
Private airplane, commercial glider . . .	4	4	1	---
Private airplane, private helicopter . .	26	12	12	+117
Private airplane, commercial helicopter .	180	194	284	-7
Private airplane, private glider, private helicopter	---	---	1	---
Private airplane, other	234	249	155	-7
Commercial pilots--total	<u>9,232</u>	<u>10,793</u>	<u>13,445</u>	-14
Commercial airplane (only)	8,036	9,624	11,437	-17
Commercial airplane, private glider . . .	97	125	43	-22
Commercial airplane, commercial glider .	88	99	108	-11
Commercial airplane, private helicopter .	12	1	6	-1,100
Commercial airplane, commercial helicopter	975	920	1,828	+6
Commercial airplane, private glider, commercial helicopter	3	6	6	-50
Commercial airplane, commercial glider, commercial helicopter	17	12	14	+42
Commercial airplane, other	4	6	3	-33
Rotorcraft pilots--total	<u>546</u>	<u>676</u>	<u>1,558</u>	-19
Commercial helicopter	540	671	1,554	-20
Airline transport helicopter	5	3	1	+67
Commercial helicopter, private glider . .	1	1	1	---
Commercial helicopter, commercial glider	---	1	---	---
Commercial helicopter, other	---	---	2	---

TABLE 7.5
INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATES:
DECEMBER 31, 1976 AND DECEMBER 31, 1977

Class of Certificates	1977	1976	Percent Change 1976-1977
Total	<u>226,334</u>	<u>211,364</u>	<u>+7</u>
Private pilots--total	<u>29,367</u>	<u>25,393</u>	<u>+16</u>
Private airplane (only)	27,243	23,462	+16
Private airplane, private glider	674	619	+9
Private airplane, commercial glider	56	50	+12
Private airplane, private helicopter	180	153	+18
Private airplane, private glider, private helicopter	9	8	+12
Private airplane, commercial helicopter	1,188	1,088	+9
Private airplane, private gyroplane	3	1	+200
Private airplane, private glider, commercial helicopter	8	6	+33
Private airplane, commercial glider, commercial helicopter	5	5	---
Private airplane, other	1	1	---
Commercial pilots--total	<u>144,248</u>	<u>138,433</u>	<u>+4</u>
Commercial airplane (only)	122,426	117,490	+4
Commercial airplane, private glider	1,580	1,393	+13
Commercial airplane, commercial glider	3,280	3,157	+4
Commercial airplane, private helicopter	119	77	+54
Commercial airplane, commercial helicopter	16,103	15,630	+3
Commercial airplane, private glider, commercial helicopter	117	103	+14
Commercial airplane, commercial glider, commercial helicopter	552	512	+8
Commercial airplane, commercial gyroplane	22	22	---
Commercial airplane, commercial helicopter, commercial gyroplane	25	24	+4
Commercial airplane, commercial gyroplane, commercial glider	2	3	-33
Commercial airplane, commercial glider, private helicopter	6	7	-14
Commercial airplane, commercial gyroplane, commercial helicopter, commercial glider	16	15	+7

TABLE 7.5 (Continued)
 INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATES:
 DECEMBER 31, 1976 AND DECEMBER 31, 1977

Class of Certificates	1977	1976	Percent Change 1976-1977
Airline transport pilots--total	<u>50,149</u>	<u>45,072</u>	<u>+11</u>
Airline transport airplane	49,698	44,704	+11
Airline transport airplane, airline transport helicopter	451	368	+23
Rotorcraft pilots--total	<u>2,570</u>	<u>2,466</u>	<u>+4</u>
Commercial helicopter	2,535	2,439	+4
Airline transport helicopter	25	17	+47
Rotorcraft, other	10	10	---

TABLE 7.6
ACTIVE HELICOPTER PILOTS BY CLASS OF CERTIFICATES:
DECEMBER 31, 1977

Class of Certificates	Number of Certificates Held
Total	<u>28,566</u>
Private helicopter	302
Private gyroplane, private airplane	28
Private helicopter, private airplane	840
Private helicopter, private airplane, private glider	30
Commercial airplane, private helicopter	168
Commercial airplane, commercial gyroplane, commercial glider, commercial helicopter	18
Commercial airplane, commercial glider, private helicopter	7
Private gyroplane	5
Private airplane, commercial glider, commercial helicopter	9
Commercial helicopter	4,425
Private airplane, commercial helicopter	2,322
Commercial airplane, commercial helicopter	19,028
Private airplane, private glider, commercial helicopter	12
Commercial airplane, private glider, commercial helicopter	135
Commercial airplane, commercial glider, commercial helicopter	626
Commercial helicopter, private glider	1
Commercial helicopter, commercial glider	9
Commercial gyroplane, commercial airplane	34
Commercial airplane, commercial gyroplane, commercial glider	3
Commercial airplane, commercial gyroplane, commercial helicopter	35
Commercial gyroplane, commercial helicopter, private airplane	1
Commercial helicopter, commercial gyroplane	3
Airline transport helicopter	74
Airline transport airplane, airline transport helicopter	451

TABLE 7.7
ACTIVE GLIDER PILOTS BY CLASS OF CERTIFICATES:
DECEMBER 31, 1977

Class of Certificates	Number of Certificates Held
Total	<u>17,933</u>
Private glider	5,187
Private airplane, private glider	3,928
Private airplane, private glider, private helicopter	30
Private airplane, private glider, commercial helicopter	12
Commercial airplane, private glider	2,051
Commercial airplane, private glider, commercial helicopter	135
Commercial helicopter, private glider	1
Private airplane, commercial glider	515
Private airplane, commercial glider, commercial helicopter	9
Commercial glider	1,021
Commercial airplane, commercial glider	4,381
Commercial airplane, commercial glider, private helicopter	7
Commercial airplane, commercial glider, commercial helicopter	626
Commercial helicopter, commercial glider	9
Commercial airplane, commercial gyroplane, commercial glider and commercial helicopter	18
Commercial airplane, commercial gyroplane, commercial glider	3

TABLE 7.8
ACTIVE HELICOPTER AND GLIDER PILOTS:
DECEMBER 31, 1973-77

Calendar Year	Total Helicopter Pilots ¹		Total Glider Pilots ²	
	Number	Percent Change	Number	Percent Change
1977	28,566	+3	17,933	+6
1976	27,816	-1	16,866	+6
1975	27,872	-3	15,962	+6
1974	28,618	+18	15,013	+40
1973	24,352	-22	10,723	-20

¹ Includes pilots with ratings to fly helicopters only.

² Includes pilots with ratings to fly gliders only.

TABLE 7.9
TOTAL AND INSTRUMENT RATED PILOTS:
DECEMBER 31, 1973-77

Calendar Year	Total Pilots ¹	Instrument Rated Pilots	
		Number	Percent of Total
1977	580,422	226,334	39
1976	555,625	211,364	38
1975	551,209	203,954	37
1974	552,933	199,323	36
1973	532,702	185,696	35

¹ Excludes student pilots.

TABLE 7.10
ACTIVE PILOT CERTIFICATES HELD, BY CATEGORY AND
AGE GROUP OF HOLDER: 1977, 1976, AND 1973

Age Group	Type of Pilot Certificates								
	Total Active Pilots			Student			Private Airplane		
	1977	1976	1973	1977	1976	1973	1977	1976	1973
Total	783,933	744,246	714,607	203,510	188,801	181,905	327,424	309,005	298,921
14-15	381	408	---	381	408	---	---	---	---
16-19	31,993	31,063	30,962	24,075	22,881	23,265	7,289	7,503	6,909
20-24	93,318	89,665	88,196	46,224	43,540	44,432	35,712	34,067	31,442
25-29	117,322	115,012	116,751	41,095	38,038	35,483	45,439	42,588	39,343
30-34	127,721	118,760	110,142	31,983	28,537	26,220	47,508	43,711	41,802
35-39	106,092	97,822	93,350	21,277	19,155	18,552	42,565	39,250	39,820
40-44	88,244	85,569	86,312	14,453	13,881	14,183	37,383	36,633	41,534
45-49	79,126	75,761	74,680	11,426	10,759	9,963	40,253	40,338	42,204
50-54	64,834	63,322	63,889	7,032	6,564	5,731	35,534	32,642	28,990
55-59	46,738	42,322	32,225	3,476	3,197	2,700	20,701	18,775	16,139
60 and over	28,164	24,542	18,100	2,088	1,841	1,376	15,040	13,498	10,738

Age Group	Type of Pilot Certificates								
	Commercial Airplane			Airline Transport			Helicopter (only)		
	1977	1976	1973	1977	1976	1973	1977	1976	1973
Total	188,763	187,801	182,444	50,149	45,072	38,139	4,819	4,804	5,951
14-15	---	---	---	---	---	---	---	---	---
16-19	337	379	471	---	---	1	10	9	5
20-24	9,773	10,405	10,151	356	264	114	213	297	1,056
25-29	24,604	28,197	35,540	3,412	3,066	2,414	1,609	2,033	3,077
30-34	37,175	37,129	35,176	8,079	6,916	5,059	1,865	1,500	1,016
35-39	32,478	30,990	27,668	8,179	6,993	6,061	608	510	409
40-44	26,722	26,247	22,949	8,484	7,656	6,526	284	243	212
45-49	19,159	17,254	16,088	7,055	6,214	5,435	148	140	111
50-54	15,508	17,006	20,622	5,719	6,103	7,728	53	44	41
55-59	15,165	13,608	9,321	6,473	5,919	3,587	21	17	17
60 and over	7,842	6,586	4,458	2,392	1,941	1,214	8	11	7

TABLE 7.10 (Continued)
ACTIVE PILOT CERTIFICATES HELD, BY CATEGORY AND
AGE GROUP OF HOLDER: 1977, 1976, AND 1973

Age Group	Type of Pilot Certificates								
	Glider (only)			Lighter-Than-Air			Flight Instructor ¹		
	1977	1976	1973	1977	1976	1973	1977	1976	1973
Total	<u>6,208</u>	<u>5,789</u>	<u>4,288</u>	<u>3,060</u>	<u>2,974</u>	<u>2,942</u>	<u>49,362</u>	<u>46,236</u>	<u>36,791</u>
14-15	---	---	---	---	---	---	---	---	---
16-19	264	276	292	18	15	19	102	118	127
20-24	966	1,010	765	74	82	227	4,256	4,044	3,149
25-29	999	936	576	164	154	312	7,768	7,944	7,755
30-34	882	751	469	229	216	397	10,076	9,444	7,426
35-39	633	570	419	352	354	421	7,877	7,028	5,213
40-44	492	459	428	426	450	481	6,230	5,581	3,900
45-49	572	547	459	513	509	421	4,512	4,034	3,111
50-54	534	495	421	454	468	356	3,395	3,436	3,182
55-59	465	408	267	437	398	194	3,106	2,825	1,812
60 and over	401	337	192	393	328	114	2,040	1,782	1,116

¹ Not included in total active pilots.

TABLE 7.11

ACTIVE NONPILOT CERTIFICATES HELD, BY CATEGORY AND AGE GROUP OF HOLDER: 1977, 1976, AND 1973

Age Group	Type of Pilot Certificates											
	Total Nonpilots			Mechanic ¹			Parachute Rigger ¹			Ground Instructor ¹		
	1977	1976	1973	1977	1976	1973	1977	1976	1973	1977	1976	1973
Total . . .	348,584	334,681	304,747	220,768	212,303	193,337	8,994	8,718	6,941	55,717	53,464	46,827
14-15	13	10	9	4	3	4	---	---	---	9	7	5
16-19	617	609	350	514	459	255	2	10	6	55	63	48
20-24	14,730	13,845	13,101	8,632	7,732	7,531	362	442	444	2,088	1,979	1,403
25-29	31,270	33,064	35,000	18,020	19,763	21,635	1,325	1,360	1,113	4,517	4,680	4,674
30-34	47,977	45,468	40,402	28,001	26,201	21,618	1,458	1,372	1,164	7,375	7,165	5,631
35-39	43,896	41,157	37,846	23,331	21,581	20,064	1,297	1,275	1,279	6,115	5,231	3,661
40-44	39,857	39,084	36,901	23,067	23,442	24,015	1,347	1,268	968	4,107	3,773	3,211
45-49	36,876	34,773	34,778	25,450	24,598	25,154	874	808	619	3,832	3,829	4,713
50-54	38,387	41,020	45,956	28,027	29,728	32,277	735	732	520	5,791	6,536	8,267
55-59	43,526	40,101	29,979	31,008	28,283	20,486	614	557	345	8,217	7,886	6,728
60 and over	51,435	45,550	30,425	34,714	30,513	20,298	980	894	483	13,607	12,315	8,486
Control Tower Operator												
Dispatcher ¹												
1977	5,972	5,838	5,527	25,107	24,584	23,250	2,155	2,214	2,636	29,871	27,560	26,229
14-15	---	---	---	---	---	---	---	---	---	---	---	---
16-19	---	1	1	46	76	40	---	---	---	---	---	---
20-24	30	17	20	3,309	3,461	3,602	---	---	---	---	---	---
25-29	225	244	300	5,561	5,913	5,349	---	---	---	---	---	---
30-34	576	629	603	5,490	4,787	3,333	1	2	18	309	214	100
35-39	691	630	618	3,290	3,452	4,208	31	64	318	1,621	1,102	1,911
40-44	677	685	652	3,351	3,452	4,208	401	498	641	5,046	5,250	7,735
45-49	650	651	700	2,272	1,867	1,186	561	537	426	8,767	8,490	7,375
50-54	750	775	952	815	894	1,435	317	272	342	6,747	6,146	4,246
55-59	962	965	857	757	719	577	303	328	527	3,481	2,748	2,064
60 and over	1,411	1,241	824	216	182	137	406	408	307	1,966	2,027	1,978
Flight Navigator												
Flight Engineer												
1977	---	---	---	---	---	---	---	---	---	---	---	---
14-15	---	---	---	---	---	---	---	---	---	---	---	---
16-19	---	---	---	---	---	---	---	---	---	---	---	---
20-24	---	---	---	---	---	---	---	---	---	---	---	---
25-29	---	---	---	---	---	---	---	---	---	---	---	---
30-34	---	---	---	---	---	---	---	---	---	---	---	---
35-39	---	---	---	---	---	---	---	---	---	---	---	---
40-44	---	---	---	---	---	---	---	---	---	---	---	---
45-49	---	---	---	---	---	---	---	---	---	---	---	---
50-54	---	---	---	---	---	---	---	---	---	---	---	---
55-59	---	---	---	---	---	---	---	---	---	---	---	---
60 and over	---	---	---	---	---	---	---	---	---	---	---	---

¹ Numbers represent all certificates on record. No medical examination required.

TABLE 7.12

ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE:

DECEMBER 31, 1977

FAA Region and State	Total Pilots ¹	Student	Private	Commercial	Airline Transport	Miscellaneous ²	Flight Instructor ³
Total	783,932	203,510	327,424	188,763	50,149	14,086	49,362
United States--total	769,767	199,472	324,643	184,435	47,429	13,788	48,728
New England--total	33,219	9,015	13,070	7,539	2,931	664	2,084
Maine	3,833	1,144	1,567	960	122	40	197
New Hampshire	3,886	959	1,264	1,042	539	82	220
Rhode Island	1,609	483	657	365	80	24	115
Massachusetts	12,746	3,739	5,375	2,619	717	296	777
Connecticut	9,581	2,270	3,511	2,208	1,401	191	686
Vermont	1,564	420	696	345	72	31	89
Eastern--total	103,642	28,060	42,114	24,647	6,575	2,276	7,091
New York	30,835	8,949	12,984	6,435	1,637	830	2,028
Pennsylvania	23,340	6,540	10,080	4,909	1,336	475	1,691
Virginia	15,977	3,800	5,427	5,320	1,131	299	1,004
Maryland	10,716	2,767	4,545	2,683	521	200	700
West Virginia	2,971	938	1,242	611	128	52	194
Delaware	1,881	405	785	500	162	29	154
New Jersey	17,126	4,441	6,725	3,973	1,635	352	1,271
District of Columbia	826	220	326	216	25	39	49
Great Lakes--total	137,788	37,020	64,845	27,843	6,184	1,896	8,478
Illinois	34,554	9,023	15,610	7,166	2,170	585	2,195
Indiana	15,908	4,546	7,591	3,130	473	168	1,009
Minnesota	18,006	4,443	8,441	3,898	1,052	172	924
Michigan	25,317	7,055	12,229	4,712	939	382	1,542
Ohio	30,487	8,268	14,317	6,413	1,039	450	2,054
Wisconsin	13,516	3,685	6,657	2,524	511	139	754
Central--total	51,734	13,732	24,631	10,824	2,006	541	2,931
Kansas	14,642	3,727	7,029	3,167	573	146	800
Iowa	12,295	3,503	6,186	2,229	258	119	647
Missouri	16,314	4,134	7,362	3,598	990	230	1,037
Nebraska	8,483	2,368	4,054	1,830	185	46	447
Southern--total	116,399	30,599	44,218	31,046	8,410	2,126	7,356
North Carolina	13,791	3,917	5,566	3,457	547	304	774
South Carolina	6,793	2,009	2,550	1,894	256	84	415
Georgia	16,501	4,021	5,666	4,486	2,019	309	986
Florida	45,017	11,060	16,841	12,407	4,064	645	2,838
Mississippi	6,056	1,665	2,290	1,848	190	63	390
Alabama	9,714	2,494	3,741	2,883	325	271	793
Tennessee	11,856	3,292	4,817	2,687	810	250	784
Kentucky	6,671	2,141	2,747	1,384	199	200	376
Southwest--total	95,163	23,774	37,421	26,241	6,085	1,642	6,467
Louisiana	10,388	2,760	3,750	3,139	474	265	696
Oklahoma	14,584	3,790	6,649	3,432	547	166	943
Texas	56,516	13,453	21,376	16,012	4,666	1,009	3,956
New Mexico	6,386	1,646	2,774	1,613	206	147	416
Arkansas	7,289	2,125	2,872	2,045	192	55	456

TABLE 7.12 (Continued)
ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE:
DECEMBER 31, 1977

FAA Region and State	Total Pilots ¹	Student	Private	Commercial	Airline Transport	Miscel- laneous ²	Flight Instructor ³
Rocky Mountain--total	40,304	11,075	16,882	9,312	2,086	949	2,472
Colorado	17,862	4,492	6,744	4,371	1,530	725	1,242
Wyoming	2,940	946	1,266	602	105	21	189
Utah	5,690	1,605	2,539	1,204	241	101	312
Montana	5,709	1,627	2,658	1,261	122	41	322
North Dakota	4,265	1,272	1,870	1,071	32	20	217
South Dakota	3,838	1,133	1,805	803	56	41	190
Western--total	134,039	31,526	57,158	32,750	9,823	2,782	8,072
California	113,753	26,498	48,892	27,586	8,450	2,327	6,803
Arizona	14,650	3,689	6,051	3,767	754	389	900
Nevada	5,636	1,339	2,215	1,397	619	66	369
Northwest--total	43,656	11,144	18,960	10,530	2,346	676	2,928
Washington	23,884	5,583	9,652	6,388	1,800	461	1,686
Oregon	14,078	3,983	6,728	2,857	350	160	863
Idaho	5,694	1,578	2,580	1,285	196	55	379
Alaskan region--total	10,551	2,815	4,374	2,648	618	96	642
Pacific region--total	3,241	712	970	1,055	365	139	207
Outside U.S.--total	14,166	4,038	2,781	4,328	2,720	299	634

¹ Includes Outside U.S.

² Includes glider helicopter, and lighter-than-air.

³ Not included in total.

NOTE: Puerto Rico and Virgin Islands are included in Outside U.S. total.

TABLE 7.13
ACTIVE NONPILOT AIRMEN CERTIFICATES ISSUED, BY FAA REGION AND STATE:
DECEMBER 31, 1977¹

FAA Region and State	Total Nonpilot Airmen	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Control Tower Operator	Flight Navigator	Flight Engineer
Total	348,584	220,768	8,994	55,717	5,972	25,107	2,155	29,871
United States--total	336,951	213,817	8,873	54,752	4,714	24,115	2,008	28,672
New England--total	17,299	11,304	394	2,647	126	775	226	1,827
Maine	1,095	627	42	232	11	122	4	37
New Hampshire	1,628	648	27	263	13	203	27	447
Rhode Island	900	582	48	189	4	31	4	42
Massachusetts	8,359	6,361	179	1,119	60	252	25	363
Connecticut	4,858	2,814	86	719	35	147	164	893
Vermont	459	272	12	125	3	20	2	25
Eastern--total	60,006	40,887	1,465	8,819	1,369	3,419	412	3,635
New York	25,547	18,471	357	3,269	1,052	1,230	152	1,016
Pennsylvania	13,244	9,831	311	1,963	81	573	62	423
Virginia	5,371	2,489	351	942	105	764	45	675
Maryland	3,119	1,749	130	671	19	259	15	276
West Virginia	961	542	47	225	2	122	1	22
Delaware	938	605	22	149	7	87	8	60
New Jersey	10,256	6,819	222	1,473	87	371	129	1,155
District of Columbia	570	381	25	127	16	13	---	8
Great Lakes--total	44,383	27,199	1,203	8,750	426	3,159	61	3,585
Illinois	13,658	8,204	269	2,478	219	737	24	1,727
Indiana	4,396	2,685	184	874	25	446	5	1,177
Minnesota	7,316	4,516	140	1,152	93	378	8	1,029
Michigan	7,029	4,378	199	1,600	36	606	9	201
Ohio	8,729	5,505	284	1,891	40	754	12	243
Wisconsin	3,255	1,911	127	755	13	238	3	208
Central--total	18,885	12,743	418	3,533	133	1,204	12	842
Kansas	5,544	3,771	102	998	34	350	---	289
Iowa	2,662	1,663	90	649	9	189	---	62
Missouri	8,952	6,301	163	1,458	85	495	7	443
Nebraska	1,727	1,008	63	428	5	170	5	48

TABLE 7.13 (Continued)

ACTIVE NONPILOT AIRMEN CERTIFICATES ISSUED, BY FAA REGION AND STATE:

DECEMBER 31, 1977¹

FAA Region and State	Total Nonpilot Airmen	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Control Tower Operator	Flight Navigator	Flight Engineer
Southern--total	53,776	31,451	1,600	8,488	960	5,546	300	5,431
North Carolina	3,972	2,064	339	780	39	609	14	127
South Carolina	1,921	862	79	436	5	427	3	109
Georgia	10,452	5,947	272	1,211	180	815	20	2,007
Florida	25,304	15,646	423	3,755	590	1,895	230	2,765
Mississippi	1,620	781	43	404	7	325	6	54
Alabama	5,427	3,540	120	842	100	740	7	78
Tennessee	3,486	1,808	158	722	35	504	14	245
Kentucky	1,594	803	166	338	4	231	6	46
Southwest--total	41,880	26,088	1,007	7,281	300	3,782	96	3,326
Louisiana	3,548	2,149	95	631	22	413	3	235
Oklahoma	9,877	7,348	184	1,516	19	637	14	159
Texas	24,932	14,751	584	4,283	238	2,160	71	2,845
New Mexico	1,743	899	81	408	12	304	4	35
Arkansas	1,780	941	63	443	9	268	4	52
Rocky Mountain--total	12,569	6,861	550	2,652	149	1,028	47	1,282
Colorado	6,794	3,602	147	1,362	127	428	33	1,095
Wyoming	789	516	28	177	3	33	4	28
Utah	1,625	914	79	322	13	197	5	95
Montana	1,643	858	245	389	3	106	4	38
North Dakota	862	483	23	187	2	153	1	13
South Dakota	856	488	28	215	1	111	---	13
Western--total	67,434	44,485	1,411	9,423	872	3,631	592	6,920
California	60,270	40,132	1,201	8,128	830	2,951	598	6,430
Arizona	5,424	3,578	163	951	25	464	19	224
Nevada	1,740	775	47	344	17	216	75	266
Northwest--total	14,853	8,890	668	2,375	171	1,032	134	1,583
Washington	10,343	6,156	321	1,529	149	685	96	1,407
Oregon	3,039	1,884	217	558	17	198	33	132
Idaho	1,471	850	130	288	5	149	5	44
Alaskan Region--total	3,206	2,007	113	562	105	290	9	120
Pacific Region--total	2,660	1,902	44	222	103	249	19	121
Outside U.S.--total	11,633	6,951	121	965	1,258	992	147	1,199

¹ Data for control tower operators, flight engineers, and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers, and ground instructors, represent total ratings issued to date. These ratings retain their validity.

NOTE: Puerto Rico and Virgin Islands are included in Outside U.S. total.

TABLE 7.14

FAA CERTIFICATED REPAIR STATIONS AND PARACHUTE LOFTS BY FAA REGION AND STATE: DECEMBER 31, 1977

FAA Region and State	Repair Stations	Parachute Lofts	FAA Region and State	Repair Stations	Parachute Lofts
Total	<u>3,457</u>	<u>60</u>	Southern (continued)		
United States--total	<u>3,304</u>	<u>60</u>	Florida	257	2
New England--total	<u>151</u>	<u>1</u>	Mississippi	11	---
Maine	10	---	Alabama	35	2
New Hampshire	13	---	Tennessee	42	---
Rhode Island	7	---	Kentucky	16	---
Massachusetts	36	---	Southwest--total	<u>444</u>	<u>6</u>
Connecticut	79	1	Louisiana	30	---
Vermont	6	---	Oklahoma	88	2
Eastern--total	<u>465</u>	<u>6</u>	Texas	280	2
New York	172	3	New Mexico	25	2
Pennsylvania	109	1	Arkansas	21	---
Virginia	35	---	Rocky Mountain--total	<u>128</u>	<u>5</u>
Maryland	30	---	Colorado	39	1
West Virginia	17	---	Wyoming	12	---
Delaware	6	---	Utah	29	1
New Jersey	89	2	Montana	23	2
District of Columbia	7	---	North Dakota	13	1
Great Lakes--total	<u>500</u>	<u>12</u>	South Dakota	12	---
Illinois	85	2	Western--total	<u>739</u>	<u>9</u>
Indiana	75	3	California	662	9
Minnesota	58	---	Arizona	64	---
Michigan	91	2	Nevada	13	---
Ohio	142	5	Northwest--total	<u>134</u>	<u>5</u>
Wisconsin	48	---	Washington	86	3
Central--total	<u>192</u>	<u>7</u>	Oregon	28	1
Kansas	80	2	Idaho	20	1
Iowa	45	2	Alaska	<u>69</u>	<u>3</u>
Missouri	50	1	Hawaii	<u>19</u>	---
Nebraska	17	2	Outside U.S.	<u>153</u>	---
Southern--total	<u>463</u>	<u>6</u>			
North Carolina	32	2			
South Carolina	19	---			
Georgia	51	---			

TABLE 7.15
FAA DESIGNATED MECHANIC AND PARACHUTE RIGGER EXAMINERS BY FAA REGION AND STATE: 1977

FAA Region and State	Mechanic Examiners				Parachute Rigger Examiner			
	Total	Airframe	Powerplant	Airframe Powerplant	Total	Back	Chest	Seat
Total	602	30	34	538	87	87	87	751
United States--total	560	29	32	499	84	84	84	732
New England--total	19	4	4	11	4	4	4	3
Maine	1	---	---	1	---	---	---	---
New Hampshire	1	1	---	---	---	1	1	1
Rhode Island	---	---	---	---	---	---	---	---
Massachusetts	11	3	4	4	1	1	1	---
Connecticut	5	---	---	5	2	2	2	2
Vermont	1	---	---	1	---	---	---	---
Eastern--total	64	8	9	47	14	14	14	134
New York	35	6	7	22	4	4	4	34
Pennsylvania	14	---	---	14	2	2	2	2
Virginia	3	---	---	3	2	2	2	2
Maryland	4	---	---	4	2	2	2	2
West Virginia	1	---	---	1	1	1	1	1
Delaware	1	---	---	1	---	---	---	---
New Jersey	6	2	2	2	3	3	3	3
District of Columbia	---	---	---	---	---	---	---	---
Great Lakes--total	116	3	2	111	9	9	9	84
Illinois	38	1	2	35	2	2	2	24
Indiana	13	---	---	13	2	2	2	2
Minnesota	18	2	---	16	---	---	---	---
Michigan	19	---	---	19	1	1	1	1
Ohio	19	---	---	19	3	3	3	3
Wisconsin	9	---	---	9	1	1	1	---
Central--total	40	1	1	38	4	4	4	4
Kansas	7	1	1	5	1	1	1	1
Iowa	11	---	---	11	1	1	1	1
Missouri	17	---	---	17	1	1	1	1
Nebraska	5	---	---	5	1	1	1	1
Southern--total	79	2	3	71	11	11	11	10
North Carolina	6	---	---	6	1	1	1	1
South Carolina	2	---	---	2	---	---	---	---
Georgia	11	---	---	11	---	---	---	---

TABLE 7.15 (Continued)

FAA DESIGNATED MECHANIC AND PARACHUTE RIGGER EXAMINERS BY FAA REGION AND STATE: 1977

FAA Region and State	Mechanic Examiners			Parachute Examiners				
	Total	Airframe	Powerplant	Airframe Powerplant	Total	Back	Chest	Seat
Southern--total (continued)								
Florida	38	2	3	31	5	5	5	5
Mississippi	5	---	---	5	---	---	---	---
Alabama	6	---	---	6	2	2	2	2
Tennessee	9	---	---	8	2	2	2	2
Kentucky	2	---	---	2	---	---	---	---
Southwest--total	66	9	9	48	10	10	10	8
Louisiana	2	---	---	2	1	1	1	1
Oklahoma	22	5	5	12	2	2	2	2
Texas	35	4	4	27	4	4	4	3
New Mexico	4	---	---	4	1	1	1	1
Arkansas	3	---	---	3	2	2	2	1
Rocky Mountain--total	19	1	2	16	8	8	8	7⁴
Colorado	10	---	1	9	2	2	2	2
Wyoming	1	---	---	1	1	1	1	1
Utah	2	---	---	2	1	1	1	1 ⁴
Montana	3	1	1	1	3	3	3	2
North Dakota	2	---	---	2	---	---	---	---
South Dakota	1	---	---	1	1	1	1	1
Western--total	106	---	1	105	10	10	10	10³
California	90	---	1	89	8	8	8	8 ³
Arizona	11	---	---	11	1	1	1	1
Nevada	5	---	---	5	1	1	1	1
Northwest--total	34	1	1	32	8	8	8	6
Washington	22	1	1	20	2	2	2	2
Oregon	7	---	---	7	4	4	4	2
Idaho	5	---	---	5	2	2	2	2
Alaskan region--total	15	---	---	15	5	5	5	3
Pacific region--total	2	---	---	2	1	1	1	1
Outside U.S.--total	42	1	2	39	3	3	3	2⁴

- ¹ Includes 6 examiners with lap ratings.
² Includes 5 examiners with lap ratings.
³ Includes 2 examiners with lap ratings.
⁴ Includes 1 examiner with lap rating.

VIII. U.S. REGISTERED AIRCRAFT

Source of Data: U.S. registered civil aircraft data are derived from the Aircraft Registration Master File maintained by the Airmen and Aircraft Registry at the FAA Aeronautical Center in Oklahoma City, Oklahoma.

TABLE 8.1
ESTIMATED HOURS FLOWN IN ACTIVE GENERAL AVIATION BY TYPE OF FLYING:
CALENDAR YEARS 1968 THROUGH 1977--ACTUAL USE
(Thousands of Hours)

Year	Total Estimated Hours	Business		Commercial		Instructional		Personal		Other	
		Hours	Percent	Hours	Percent	Hours	Percent	Hours	Percent	Hours	Percent
1968 ¹	24,053	6,976	29	4,810	20	6,494	27	5,532	23	241	1
1969 ¹	25,351	7,064	28	4,928	19	7,023	28	5,999	24	337	1
1970 ²	26,030	7,204	28	4,582	18	6,791	26	6,896	26	557	1
1971 ²	25,512	7,141	28	4,264	17	6,416	25	7,252	28	439	2
1972 ²	26,974	7,239	27	4,831	18	6,814	25	7,601	28	489	2
1973 ²	30,048	8,558	28	5,608	19	7,646	25	7,546	25	690	3
1974 ²	32,475	9,140	28	6,294	19	7,972	25	8,404	26	665	2
1975 ²	34,165	9,545	28	6,480	19	8,174	24	9,244	27	722	2
1976 ²	36,128	10,095	28	7,029	19	8,591	24	9,768	27	645	2
1977 ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

¹ Estimated from FAA Form 8320-3.

² Estimated from AC Form 8050-73.

³ Figures for 1977 were unavailable at time of publication.

NOTE: Business includes business and executive.
Commercial includes air taxi, aerial application, and industrial/special.
Instructional includes training and rental.

TABLE 8.2
ESTIMATED MILES FLOWN IN ACTIVE GENERAL AVIATION BY TYPE OF FLYING:
CALENDAR YEARS 1968 THROUGH 1977--ACTUAL USE
(Thousands of Miles)

Year	Estimated Total Miles Flown	Business		Commercial		Instructional		Personal		Other	
		Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
1968 ¹	3,700,864	1,406,328	38	666,156	18	814,190	22	777,181	21	37,009	1
1969 ¹	3,926,461	1,425,923	36	722,916	19	910,290	23	829,043	21	38,289	1
1970 ²	3,207,127	1,134,279	35	554,683	17	686,152	22	753,434	24	78,579	2
1971 ²	3,143,181	1,128,951	36	506,598	16	651,019	21	794,713	25	61,900	
1972 ²	3,317,068	1,143,841	34	580,861	18	691,513	21	833,855	25	66,998	2
1973 ²	3,728,534	1,343,723	36	688,402	18	777,868	21	825,099	22	93,442	3
1974 ²	4,042,700	1,433,276	35	789,695	20	815,543	20	919,587	23	84,599	2
1975 ²	4,238,400	1,486,076	35	818,065	19	829,362	20	1,008,276	24	95,821	2
1976 ²	4,476,014	1,562,939	35	885,021	20	873,025	20	1,068,114	24	86,915	2
1977 ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

¹ Estimated from FAA Form 8320-3.

² Estimated from AC Form 8050-73.

³ Figures for 1977 were unavailable at time of publication.

NOTE: Business includes business and executive.
Commercial includes air taxi, aerial application, and industrial/special.
Instructional includes training and rental.

TABLE 8.3

ACTIVE* U.S. CIVIL AIRCRAFT AND AIRPORTS ON RECORD WITH FAA

AS OF DECEMBER 31, 1968 THROUGH 1977

Year	Active Civil Aircraft										Airports on Record with FAA
	Total	Total Air Carrier ¹	General Aviation Aircraft								
			Total	Fixed-Wing Aircraft			Rotor- Craft ²	Other ³			
				Multi- Engine	1-Engine						
					4-Place & Over	3-Place & Less					
1968	127,164	2,927	124,237	16,760	60,977	42,830	2,350	1,320	10,470		
1969	133,814	3,008	130,806	18,111	63,703	45,001	2,557	1,434	11,050		
1970	134,539	2,796	131,743	18,291	64,759	44,884	2,255	1,554	11,261		
1971	133,869	2,721	131,148	17,855	64,464	44,792	2,352	1,685	12,070		
1972	147,695	2,685	145,010	19,849	70,998	49,448	2,787	1,928	12,405		
1973	156,207	2,667	153,540	21,929	74,831	51,386	3,143	2,251	12,700		
1974	164,160	2,658	161,502	23,418	78,924	53,008	3,610	2,542	13,062		
1975	171,156	2,681	168,475	24,559	82,621	54,390	4,073	2,832	13,251		
1976	180,854	2,550	178,304	25,684	88,211	56,730	4,505	3,174	13,770		
1977 ⁴	NA	NA	NA	NA	NA	NA	NA	NA	14,117		

¹ Includes helicopters.² Includes autogiros; excludes air carrier helicopters.³ Includes gliders, blimps, balloons, and dirigibles.⁴ Figures for 1977 were unavailable at time of publication.

* Prior to 1970 this category was defined as eligible aircraft.

TABLE 8.4
U.S. REGISTERED GENERAL AVIATION AIRCRAFT PER 1,000 SQUARE MILES
AND BY 10,000 POPULATION BY FAA REGION AND STATE:
DECEMBER 31, 1977

FAA Region and State	Aircraft Per 1,000 Sq. Miles	Aircraft Per 10,000 Population	Total Registered Aircraft	State Area Sq. Miles	Estimated July Population ¹
Total	<u>58.9</u>	<u>9.8</u>	<u>213,020</u>	<u>3,618,691</u>	<u>216,420</u>
United States--total ² . . .	<u>58.7</u>	<u>9.8</u>	<u>212,332</u>	<u>3,615,123</u>	<u>216,420</u>
New England--total	<u>114.2</u>	<u>6.2</u>	<u>7,609</u>	<u>66,608</u>	<u>12,242</u>
Connecticut	337.4	5.4	1,690	5,009	3,108
Maine	34.9	10.7	1,160	33,215	1,085
Massachusetts	332.7	4.8	2,747	8,257	5,782
New Hampshire	129.0	14.1	1,200	9,304	849
Rhode Island	290.0	3.8	352	1,214	935
Vermont	47.9	9.5	460	9,609	483
Eastern--total	<u>139.8</u>	<u>5.1</u>	<u>25,225</u>	<u>180,445</u>	<u>49,443</u>
Delaware	433.6	15.3	892	2,057	582
District of Columbia	---	8.7	602	67	690
Maryland	219.3	5.6	2,320	10,577	4,139
New Jersey	496.9	5.3	3,894	7,837	7,329
New York	140.8	3.9	6,980	49,576	17,924
Pennsylvania	143.5	5.5	6,507	45,333	11,785
Virginia	72.3	5.8	2,953	40,817	5,135
West Virginia	44.5	5.8	1,077	24,181	1,859
Great Lakes--total	<u>115.4</u>	<u>8.5</u>	<u>38,354</u>	<u>332,351</u>	<u>45,031</u>
Illinois	152.8	7.7	8,620	56,400	11,245
Indiana	125.3	8.5	4,546	36,291	5,330
Michigan	128.7	8.6	7,494	58,216	9,129
Minnesota	60.3	12.7	5,067	84,068	3,975
Ohio	205.9	7.9	8,487	41,222	10,701
Wisconsin	73.7	8.9	4,140	56,154	4,651
Central--total	<u>54.9</u>	<u>13.5</u>	<u>15,681</u>	<u>285,467</u>	<u>11,657</u>
Iowa	67.4	13.2	3,796	56,290	2,879
Kansas	54.2	19.2	4,462	82,264	2,326
Missouri	67.4	9.8	4,700	69,686	4,801
Nebraska	35.3	17.4	2,723	77,227	1,561
Southern--total	<u>80.0</u>	<u>8.7</u>	<u>30,918</u>	<u>386,609</u>	<u>35,737</u>
Alabama	62.6	8.8	3,230	51,609	3,690
Florida	175.6	12.2	10,287	58,560	8,452
Georgia	70.5	8.2	4,150	58,876	5,048
Kentucky	41.5	4.8	1,676	40,395	3,458
Mississippi	45.4	9.1	2,164	47,716	2,389
North Carolina	80.2	7.6	4,220	52,586	5,525
Puerto Rico	9.1	NA	378	3,435	NA
South Carolina	55.5	6.0	1,724	31,055	2,876

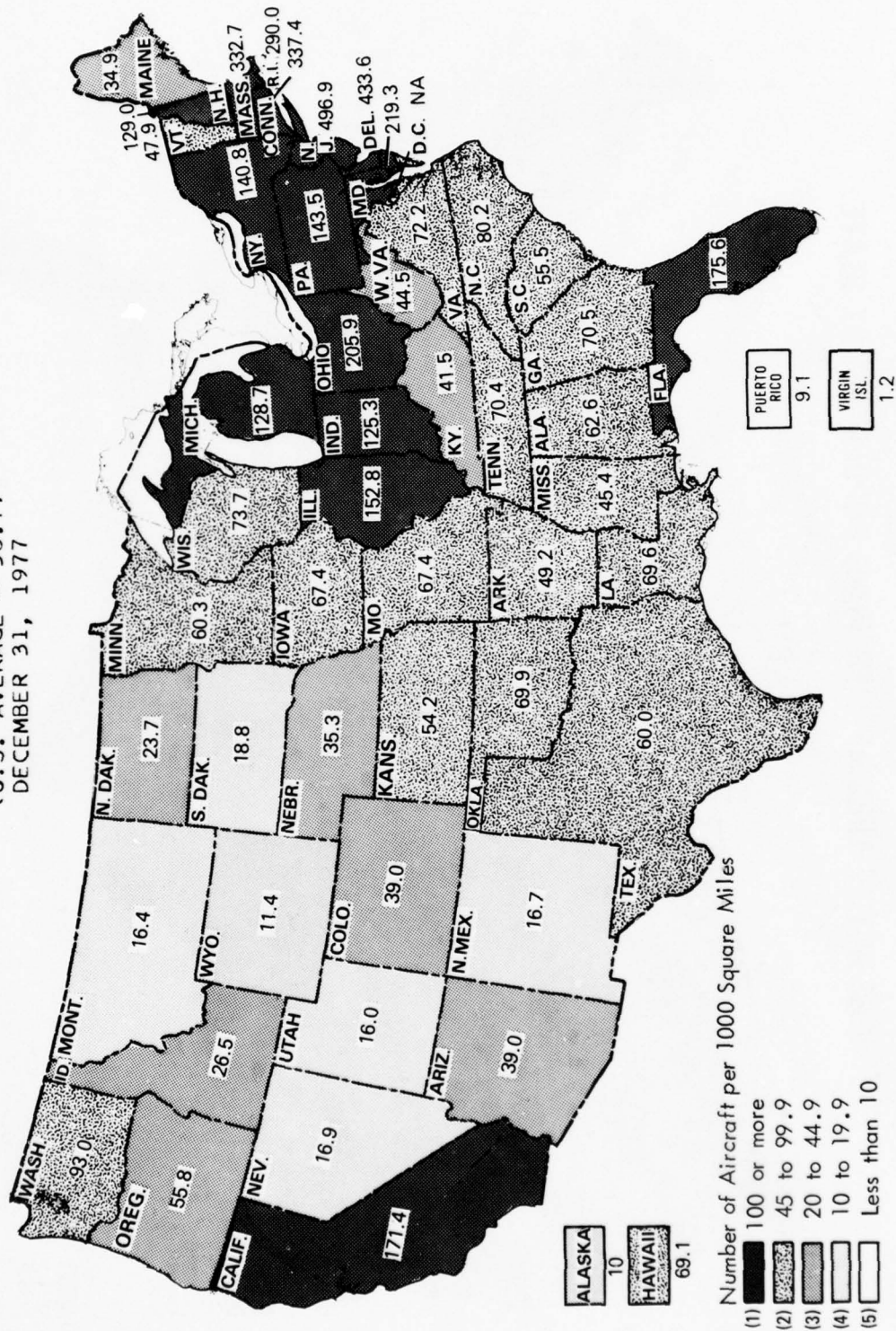
TABLE 8.4 (Continued)
U.S. REGISTERED GENERAL AVIATION AIRCRAFT PER 1,000 SQUARE MILES
AND BY 10,000 POPULATION BY FAA REGION AND STATE:
DECEMBER 31, 1977

FAA Region and State	Aircraft Per 1,000 Sq. Miles	Aircraft Per 10,000 Population	Total Registered Aircraft	State Area Sq. Miles	Estimated July Population ¹
Southern--total (continued)					
Tennessee	70.4	6.9	2,976	42,244	4,299
Virgin Islands	1.2	NA	113	133	NA
Southwest--total	<u>51.0</u>	<u>12.5</u>	<u>28,609</u>	<u>560,550</u>	<u>22,896</u>
Arkansas	49.2	12.2	2,615	53,104	2,144
Louisiana	69.6	8.6	3,378	48,523	3,921
New Mexico	16.7	17.0	2,026	121,666	1,190
Oklahoma	64.9	16.2	4,540	69,919	2,811
Texas	60.0	12.5	16,050	267,338	12,830
Rocky Mountain--total	<u>20.7</u>	<u>18.9</u>	<u>12,091</u>	<u>581,927</u>	<u>6,396</u>
Colorado	39.0	15.6	4,075	104,247	2,619
Montana	16.4	31.8	2,417	147,138	761
North Dakota	23.7	25.6	1,672	70,665	653
South Dakota	18.8	21.0	1,449	77,047	689
Utah	16.0	10.7	1,360	84,916	1,268
Wyoming	11.4	27.5	1,118	97,914	406
Western--total	<u>87.5</u>	<u>13.5</u>	<u>33,530</u>	<u>383,142</u>	<u>24,825</u>
Arizona	39.0	19.3	4,444	113,909	2,296
California	171.4	12.4	27,213	158,693	21,896
Nevada	16.9	29.6	1,873	110,540	633
Northwest--total	<u>56.2</u>	<u>20.3</u>	<u>13,970</u>	<u>248,730</u>	<u>6,891</u>
Idaho	26.5	25.9	2,218	83,557	857
Oregon	55.8	22.8	5,412	96,981	2,376
Washington	93.0	17.3	6,340	68,192	3,658
Alaskan--total	<u>10.0</u>	<u>144.3</u>	<u>5,875</u>	<u>586,412</u>	<u>407</u>
Pacific--total	<u>69.1</u>	<u>5.0</u>	<u>470</u>	<u>6,450</u>	<u>895</u>
Hawaii	69.1	5.0	446	6,450	895
Other	---	---	24	---	---
Foreign--total	---	---	<u>403</u>	---	---

¹ Estimated July population given in thousands.
² Excludes Puerto Rico, Virgin Islands, and Foreign.

AVERAGE ACTIVE AIRCRAFT PER 1,000 SQUARE MILES BY STATE

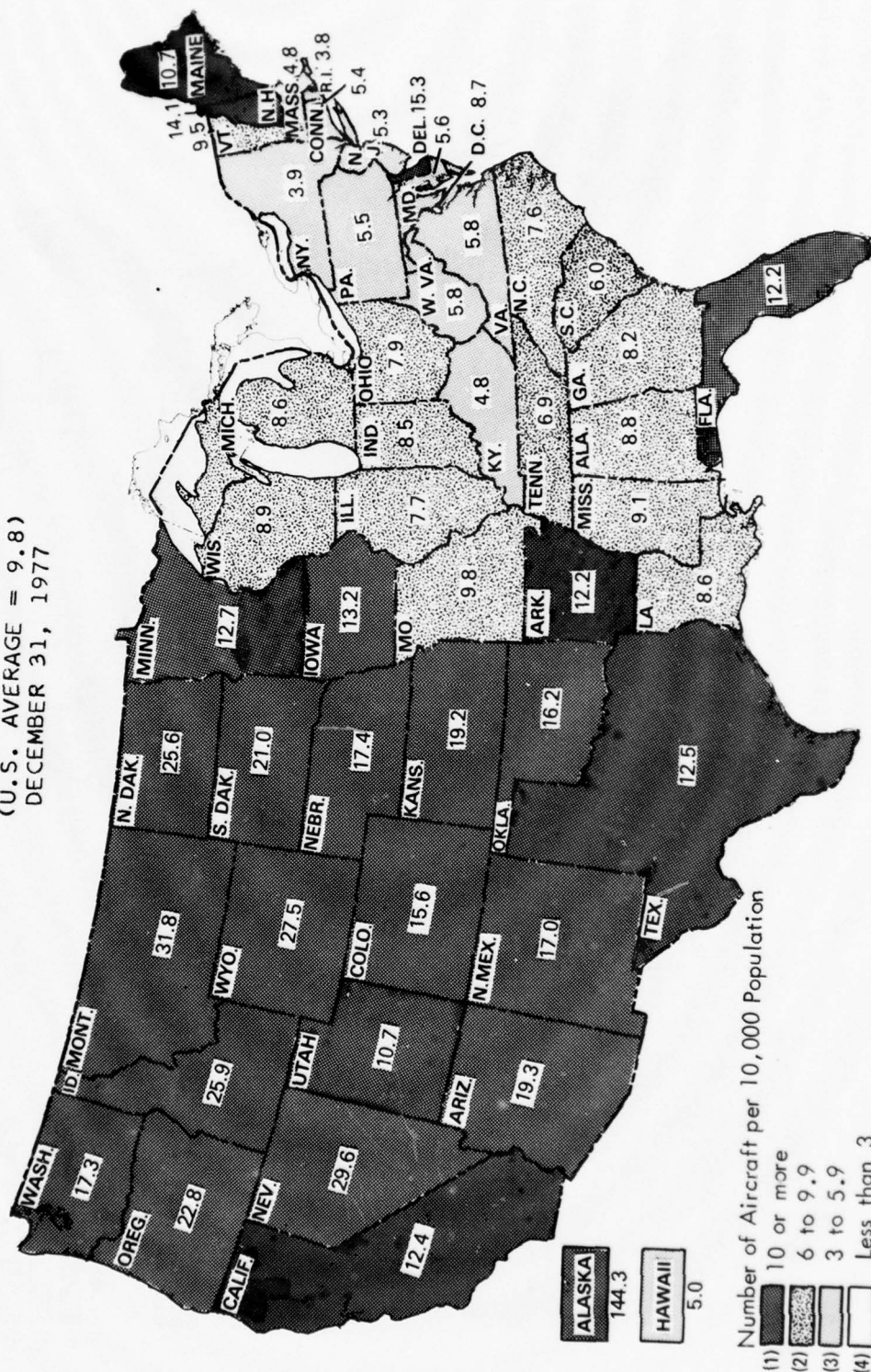
(U.S. AVERAGE = 58.7)
DECEMBER 31, 1977



NA Figures not available for the District of Columbia at time of publication.

AVERAGE ACTIVE AIRCRAFT PER 10,000 POPULATION BY STATE

(U.S. AVERAGE = 9.8)
DECEMBER 31, 1977



Number of Aircraft per 10,000 Population

- (1) 10 or more
- (2) 6 to 9.9
- (3) 3 to 5.9
- (4) Less than 3

NA Population figures for Puerto Rico and the Virgin Islands not available at time of publication.

TABLE 8.5

U.S. REGISTERED CIVIL AIRCRAFT, FIXED-WING PISTON-POWERED
BY ENGINE POWER AND NUMBER OF SEATS: DECEMBER 1976 AND 1977

Type of Aircraft	1977 Total	1976 Total
Total	196,209	188,274
By total rated takeoff engine power:		
1-engine--total	172,664	165,368
Up to 100 hp	46,583	42,999
101-200 hp	74,457	72,236
201-400 hp	47,119	45,665
401-600 hp	4,117	4,087
601-800 hp	92	84
801-1,000 hp	8	8
1,001-1,500 hp	181	180
1,501-2,000 hp	51	50
2,001-2,500 hp	54	57
3,001-4,000 hp	2	2
2-engine--total	23,150	22,508
Up to 100 hp	1,637	1,018
101-200 hp	3,543	3,639
201-400 hp	15,563	15,388
401-600 hp	1,369	1,361
601-800 hp	9	10
801-1,000 hp	11	11
1,001-1,500 hp	588	622
1,501-2,000 hp	59	62
2,001-2,500 hp	359	387
3,001-4,000 hp	12	10
3-engine--total	16	11
Up to 100 hp	4	---
201-400 hp	5	4
401-600 hp	7	7
4-engine--total	379	387
Up to 100 hp	94	99
201-400 hp	41	33
401-600 hp	2	3
601-800 hp	1	1
1,001-1,500 hp	61	64
1,501-2,000 hp	6	6
2,001-2,500 hp	106	109
2,501-3,000 hp	1	2
3,001-4,000 hp	67	70
By number of seats:		
1-engine--total	172,664	165,368
1-3 seats	74,453	72,209
4-5 seats	84,896	81,242
6-20 seats	13,315	11,917
50-seats and over	---	---
2-engine--total	23,150	22,508
1-6 seats	15,706	15,216
7-11 seats	6,340	6,173
12-19 seats	172	178
20-49 seats	745	749
50 seats and over	187	192
3-engine--total	16	11
1-6 seats	2	---
7-11 seats	2	2
12-19 seats	10	8
20-49 seats	2	1
4-engine--total	379	387
3 seats	1	1
4 seats	9	9
7-11 seats	4	4
12-19 seats	44	38
20-49 seats	24	24
50 seats and over	297	311

TABLE 8.6

U.S. REGISTERED CIVIL AIRCRAFT, FIXED-WING TURBINE-POWERED

BY ENGINE POWER AND NUMBER OF SEATS: DECEMBER 1976 AND 1977

Type of Aircraft	1977 Total	1976 Total
Total	<u>7,738</u>	<u>7,263</u>
By total pounds of thrust:		
Turbojet--total	<u>4,623</u>	<u>4,395</u>
1-engine--total	177	163
Up to 3,000	<u>112</u>	<u>98</u>
3,001-4,000	2	1
4,001-5,000	10	10
5,001-7,500	37	36
7,501-10,000	15	17
Over 10,000	1	1
2-engine--total	<u>2,479</u>	<u>2,278</u>
Up to 2,000	<u>388</u>	<u>291</u>
2,001-2,500	180	185
2,501-3,000	703	701
3,001-4,000	121	122
4,001-5,000	225	228
5,001-7,500	1	1
7,501-10,000	16	15
10,001-12,500	410	407
12,501-15,000	318	328
20,000 plus	117	---
3-engine--total	<u>1,109</u>	<u>1,061</u>
Up to 10,000	80	41
10,001-20,000	827	816
Over 20,000	202	204
4-engine--total	858	893
Up to 3,000	<u>166</u>	<u>153</u>
3,001-4,000	1	1
4,001-5,000	1	1
7,501-10,000	1	1
10,001-12,500	30	51
12,501-15,000	31	31
15,001-17,500	86	93
17,501-20,000	423	451
Over 20,000	119	111
By total equivalent shaft horse power:		
Turboprop--total	<u>3,115</u>	<u>2,868</u>
1-engine--total	39	49
Up to 100	8	7
401-600	14	23
601-800	14	16
801-1,000	3	3
2-engine--total	<u>2,947</u>	<u>2,686</u>
Up to 100	<u>379</u>	<u>200</u>
101-200	1	1
201-400	5	5
401-600	839	847
601-800	827	772
801-1,000	414	368
1,001-1,500	53	51
1,501-2,000	19	15
2,001-2,500	224	236
2,501-3,000	66	67
3,001-4,000	120	124

TABLE 8.6 (Continued)

U.S. REGISTERED CIVIL AIRCRAFT, FIXED-WING TURBINE-POWERED

BY ENGINE POWER AND NUMBER OF SEATS: DECEMBER 1976 AND 1977

Type of Aircraft	1977 Total	1976 Total
4-engine--total	<u>129</u>	<u>133</u>
Up to 2,000	<u>44</u>	<u>45</u>
2,001-4,000	65	67
4,001-5,000	17	18
Over 5,000	3	3
By number of seats:		
Turbojet--total	<u>4,623</u>	<u>4,395</u>
1-engine--total	<u>177</u>	<u>163</u>
1 seat	<u>71</u>	<u>67</u>
2 seats	102	92
3 seats	4	4
2-engine--total	<u>2,479</u>	<u>2,278</u>
1 seat	<u>1</u>	<u>1</u>
2 seats	29	29
4 seats	10	11
6 seats	180	187
7-11 seats	1,229	1,071
12-19 seats	257	239
20-49 seats	162	150
50 seats and over	611	590
3-engine--total	<u>1,109</u>	<u>1,061</u>
50 seats and over	<u>1,109</u>	<u>1,061</u>
4-engine--total	<u>858</u>	<u>893</u>
7-11 seats	<u>74</u>	<u>77</u>
12-19 seats	61	52
20-49 seats	1	1
50 seats and over	722	763
Turboprop--total	<u>3,115</u>	<u>2,868</u>
1-engine--total	39	49
1 seat	2	1
4 seats	5	6
6 seats	1	---
7 seats and over	31	42
2-engine--total	<u>2,947</u>	<u>2,686</u>
2 seats	<u>2</u>	<u>1</u>
4 seats	---	---
6 seats	186	148
7-11 seats	1,924	1,736
12-19 seats	270	257
20-49 seats	398	373
50 seats and over	167	171
4-engine--total	<u>129</u>	<u>133</u>
3 seats	<u>23</u>	<u>23</u>
5 seats	---	---
7-11 seats	3	4
12-19 seats	2	7
50 seats and over	101	99

TABLE 8.7

U.S. REGISTERED CIVIL AIRCRAFT, ROTORCRAFT

BY ENGINE POWER AND NUMBER OF SEATS, AND OTHER AIRCRAFT: DECEMBER 1976 AND 1977

Type of Aircraft	1977 Total	1976 Total
Total	<u>6,855</u>	<u>6,391</u>
By total rated takeoff engine power:		
Piston--total	<u>4,659</u>	<u>4,503</u>
1-engine--total	<u>4,658</u>	<u>4,503</u>
Up to 100 hp.	<u>2,032</u>	<u>1,877</u>
101-200 hp.	891	891
201-400 hp.	1,630	1,620
401-600 hp.	39	42
601-800 hp.	31	35
801-1,000 hp.	3	6
1,001-1,500 hp.	12	12
1,501-2,000 hp.	17	17
2,001-2,500 hp.	3	3
2-engine--total	<u>1</u>	<u>---</u>
0-100 hp.	<u>1</u>	<u>---</u>
By total equivalent shaft power:		
Turboshaft and other--total	<u>2,193</u>	<u>1,888</u>
1-engine--total	<u>1,991</u>	<u>1,712</u>
Up to 100 hp.	388	134
201-400 hp.	1,361	1,342
401-600 hp.	146	133
601-800 hp.	6	7
1,001-1,500 hp.	78	79
1,500-2,000 hp.	2	2
2,501-3,000 hp.	10	15
2-engine--total	<u>202</u>	<u>176</u>
Up to 400 hp.	<u>108</u>	<u>82</u>
401-600 hp.	62	56
1,001-1,500 hp.	23	27
1,501-2,000 hp.	3	3
2,501-3,000 hp.	---	2
Over 4,000 hp.	6	6
By number of seats:		
Piston--total	<u>4,659</u>	<u>4,503</u>
1-engine--total	<u>4,658</u>	<u>4,503</u>
1 seat.	<u>903</u>	<u>872</u>
2 seats	656	634
3 seats	2,069	1,994
4 seats	745	716
5-10 seats	21	20
10 seats and over	264	267
2-engine--total	<u>1</u>	<u>---</u>
1 seat	<u>1</u>	<u>---</u>
Turboshaft--total	<u>2,193</u>	<u>1,888</u>
1-engine--total	<u>1,191</u>	<u>1,712</u>
1 seat	<u>2</u>	<u>1</u>
2-3 seats	73	33
4 seats	565	515
5 seats	1,105	962
6 seats	99	49
7-11 seats	24	23
12-19 seats	108	113
20 seats and over	15	16

TABLE 8.7 (Continued)

U.S. REGISTERED CIVIL AIRCRAFT, ROTORCRAFT

BY ENGINE POWER AND NUMBER OF SEATS, AND OTHER AIRCRAFT: DECEMBER 1976 AND 1977

Type of Aircraft	1977 Total	1976 Total
2-engine--total	<u>202</u>	<u>176</u>
1-3 seats	8	11
5 seats	5	---
6 seats	52	51
7-11 seats	10	3
12-19 seats	97	70
20 seats and over	30	41
Gliders--total	<u>3,284</u>	<u>2,972</u>
Balloons--total	<u>1,119</u>	<u>975</u>
Blimps/Dirigibles--total	<u>6</u>	<u>6</u>

TABLE 8.8
REGISTERED U.S. CIVIL AIRCRAFT BY TYPE AND BY YEAR OF MANUFACTURE

Aircraft Class	Total Aircraft	Year of Manufacture											Prior 1968	Unknown Yr. Mfr.
		1977	1976	1975	1974	1973	1972	1971	1970	1969	1963	1968		
Total	215,281	5,500	12,472	11,171	10,418	10,043	7,593	5,205	4,941	9,127	10,352	121,310	7,149	
Fixed-wing--total	203,947	5,278	11,567	10,257	9,369	9,304	6,988	4,733	4,500	8,703	9,826	117,377	6,045	
Piston engine--total	196,209	5,173	11,108	9,798	8,860	8,793	6,649	4,547	4,195	7,964	8,986	114,773	5,363	
1-engine--total	172,664	4,855	9,945	8,633	7,646	7,357	5,683	4,067	3,633	6,700	7,783	102,072	4,290	
1-3 place	74,453	1,551	3,235	3,362	3,004	3,003	2,511	1,977	1,658	3,175	3,080	46,212	1,685	
4+ place	98,211	3,304	6,710	5,271	4,642	4,354	3,172	2,090	1,975	3,525	4,703	55,860	2,605	
2-engine--total	23,150	317	1,154	1,159	1,210	1,435	965	480	562	1,262	1,202	12,365	1,039	
1-6 place	15,706	169	724	770	762	847	569	341	430	943	876	8,732	543	
7+ place	7,444	148	430	389	448	588	396	139	132	319	326	3,633	496	
3+ engine--total	395	1	9	6	4	1	1	---	---	2	1	336	34	
Turbojet--total	4,623	39	219	251	277	276	193	103	201	463	579	1,643	379	
1-engine--total	177	1	4	6	1	2	1	3	1	3	---	121	34	
2-engine--total	2,479	23	164	167	193	145	101	52	83	293	329	669	260	
1-12 place	1,664	15	128	139	174	120	87	35	49	130	112	469	206	
13+ place	815	8	36	28	19	25	14	17	34	163	217	200	54	
3+ engine--total	1,967	15	51	78	83	129	91	48	117	167	250	853	85	
Turboprop--total	3,115	66	240	208	232	235	146	83	104	276	261	961	303	
1-engine--total	39	---	---	1	---	---	1	1	2	4	2	25	2	
2-engine--total	2,947	66	238	206	230	235	143	81	100	269	256	833	290	
1-12 place	2,138	62	217	196	197	220	138	78	90	164	144	389	243	
13+ place	809	4	21	10	33	15	5	3	10	105	112	444	47	
3+ engine--total	129	0	2	1	2	---	2	1	2	3	3	103	10	
Rotorcraft--total	6,855	91	481	541	581	385	350	291	227	242	280	2,659	727	
Piston	4,659	40	244	229	271	172	195	187	144	135	175	2,491	376	
Turbine	2,196	51	237	312	310	213	155	104	83	107	105	168	351	
Other Aircraft	4,479	131	424	373	468	354	255	181	214	182	246	1,274	377	

IX. AERONAUTICAL PRODUCTION AND EXPORTS

The data presented in this chapter were obtained from the following sources:

1. Aircraft Shipments: Bureau of the Census, Form M37G "Complete Aircraft Plant Report" and General Aviation Manufacturers Association's shipment report.
2. Employment and Earnings: Bureau of Labor Statistics, "Employment and Earnings."
3. Aeronautical Exports: Bureau of the Census, Current Industrial Reports "Complete Aircraft and Aircraft Engines."

Due to regulations regarding data disclosure of fewer than four companies, statistics pertaining to engine and propeller shipments are not reported here.

TABLE 9.1
TOTAL CIVIL AIRCRAFT SHIPMENTS: CALENDAR YEARS 1968 THROUGH 1977
(Airframe Weight, Value, and Average Unit Cost)

Calendar Year	Number of Aircraft	Airframe Weight (000 lbs.)	Value Complete Units (\$000)	Average Unit Cost
1968	14,969	76,986	4,350,695	290,647
1969	13,600	61,226	3,624,096	266,478
1970	8,190	60,406	3,607,592	440,487
1971	8,143	49,256	2,921,751	358,805
1972	11,435	47,905	3,270,185	285,980
1973	14,748	64,183	4,629,662	313,918
1974	15,117	64,285	4,967,752	328,620
1975	15,196	60,393	3,745,153	246,457
1976	16,446	52,110	3,486,841	212,018
1977	17,605	45,398	4,666,245	265,052

TABLE 9.2
COMPLETE AIRCRAFT SHIPPED BY U.S. MANUFACTURERS OF CIVIL AIRCRAFT: CALENDAR YEARS 1968 THROUGH 1977¹

Type	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total	14,969	13,600	8,190	8,143	10,523	14,748	15,117	15,196	16,446	17,605
Fixed-wing	14,451	13,090	7,695	7,680	9,995	13,966	14,289	14,357	15,886	16,804
Transports	702	509	311	230	230	295	263	314	238	180
General aviation	13,749	12,581	7,384	7,450	9,765	13,671	14,026	14,043	15,648	16,624
1-engine										
1- to 3-place	4,507	4,447	1,981	1,948	2,398	3,137	3,346	3,047	3,175	3,379
4-place and over	6,972	5,746	4,049	4,329	5,500	7,681	8,124	8,460	9,854	10,478
Multiengine	2,270	2,388	1,354	1,173	1,867	2,853	2,556	2,536	2,619	2,767
Rotorcraft	518	510	495	463	528	782	828	839	560	801
Transports	14	21	13	20	19	8	20	21	22	36
General aviation	504	489	482	443	509	774	808	818	538	765

¹ Includes both domestic and export output.

Source: Compiled from reports submitted by aircraft manufacturers to Census Bureau, General Aviation Manufacturers Association Reports, and FAA.

TABLE 9.3

TOTAL PRODUCTION OF CIVIL AIRCRAFT BY TYPE: CALENDAR YEARS 1968 THROUGH 1977

Calendar Year	Fixed-Wing						Rotor-craft
	Total Aircraft	Total	1-Engine	2-Engine	3-Engine	4-Engine	
1968	14,969	14,451	11,479	2,558	160	254	518
1969	13,541	13,031	10,134	2,608	115	174	510
1970	8,190	7,695	6,030	1,440	54	171	495
1971	8,143	7,680	6,277	1,170	33	200	463
1972	11,435	10,907	8,815	1,900	51	141	528
1973	14,748	13,966	10,818	2,887	188	73	782
1974	15,117	14,289	11,470	2,647	107	65	828
1975	15,196	14,357	11,507	2,622	159	69	839
1976	16,446	15,886	13,029	2,616	96	57	560
1977	17,605	16,804	13,857	2,790	87	70	801

TABLE 9.4

TOTAL ROTORCRAFT SHIPMENTS: CALENDAR YEARS 1968 THROUGH 1977

(Airframe Weight, Average Unit Weight, Value, and Average Unit Cost)

Calendar Year	Number of Rotorcraft	Airframe Weight (000 lbs.)	Average Unit Weight	Value of Complete Units (\$000)	Average Unit Cost
1968	518	700	1,351	53,106	102,521
1969	510	879	1,724	74,040	145,176
1970	495	643	1,299	54,294	109,685
1971	463	833	1,799	78,775	170,140
1972	528	941	1,784	87,921	166,517
1973	782	1,122	1,435	123,830	158,350
1974	828	1,358	1,640	196,932	237,841
1975	839	2,732	3,256	316,528	377,268
1976	560	2,066	3,689	574,301	1,025,538
1977	801	1,505	1,879	502,784	627,695

TABLE 9.5

GENERAL AVIATION FIXED-WING SHIPMENTS: CALENDAR YEARS 1968 THROUGH 1977

(Airframe Weight, Average Unit Weight, Value, and Average Unit Cost)

Calendar Year	Number of Aircraft	Airframe Weight (000 lbs.)	Average Unit Weight	Value of Complete Units (\$000)	Average Unit Cost
1968	13,749	16,910	1,230	553,186	40,235
1969	12,581	16,036	1,275	581,807	46,245
1970	7,384	9,408	1,274	339,887	46,030
1971	7,450	8,998	1,208	309,426	41,534
1972	10,677	12,750	1,194	536,783	50,275
1973	13,671	18,291	1,338	810,534	59,288
1974	14,026	18,497	1,319	884,166	63,038
1975	14,043	21,322	1,518	991,509	70,605
1976	15,648	22,413	1,432	1,412,675	90,278
1977	16,624	25,516	1,535	1,390,939	83,671

TABLE 9.6

TOTAL GENERAL AVIATION AIRCRAFT SHIPMENTS: CALENDAR YEAR 1977

Aircraft Category	Units Shipped		Airframe Weight		Average Unit Weight
	Number	Percent of Total	(000 lbs.)	Percent of Total	
Total	17,389	100.0	26,768	100.0	1,539
Piston engine--total	16,589	95.4	22,187	82.9	1,337
1-engine, 1-3 place	3,379	19.4	4,800	17.9	1,421
1-engine, 4 place and over	10,459	60.1	11,538	43.1	1,103
Multiengine, 4 place and over	2,341	13.5	5,454	20.4	2,330
Rotorcraft	410	2.4	395	1.5	963
Turbine engine--total	800	4.6	4,581	17.1	5,726
1-engine, 4 place and over	19	0.1	1,178	4.4	62,000
Multiengine, 4 place and over	426	2.5	2,545	9.5	5,974
Rotorcraft	355	2.0	858	3.2	2,417

TABLE 9.7
FIXED-WING TRANSPORT-TYPE SHIPMENTS: CALENDAR YEARS 1968 THROUGH 1977

Calendar Year	Number of Aircraft	Airframe Weight (000 lbs.)	Average Unit Weight	Value of Complete Units (\$000)	Average Unit Cost
1968	702	59,375	84,580	3,744,403	5,333,907
1969	509	44,310	87,053	2,978,249	5,851,177
1970	311	50,355	161,913	3,213,411	10,332,511
1971	230	39,425	171,413	2,582,611	11,228,743
1972	230	34,214	148,757	2,645,481	11,502,091
1973	295	44,770	151,763	3,695,298	12,526,434
1974	263	44,430	168,935	3,886,654	14,778,152
1975	314	36,339	115,729	2,437,153	7,776,634
1976	238	27,632	116,101	1,499,865	6,301,954
1977	180	18,377	102,094	2,772,522	15,402,900

TABLE 9.8
TOTAL TRANSPORT SHIPMENTS BY TYPE, AIRFRAME WEIGHT, AND AVERAGE UNIT WEIGHT:
CALENDAR YEAR 1977

Aircraft Category	Units Shipped		Airframe Weight		Average Unit Weight
	Number	Percent of Total	(000 lbs.)	Percent of Total	
Total	216	100.0	18,791	100.0	86,995
Fixed-wing--total	180	83.3	18,311	97.4	101,728
Turbojet	149	69.0	16,750	89.1	112,416
Turboprop	31	14.3	1,561	8.3	50,355
Rotorcraft--total	36	16.7	480	2.6	13,333
Piston	---	---	---	---	---
Turbine	36	16.6	480	2.6	13,333

TABLE 9.9
 VALUE OF BACKLOG ORDERS, NET NEW ORDERS, AND NET SALES REPORTED BY MANUFACTURERS
 OF COMPLETE AIRCRAFT, AIRCRAFT ENGINES, AND PROPELLERS: CALENDAR YEARS 1968 THROUGH 1977
 (Millions of Dollars)

Year	Net New Orders During Year ¹	Net Sales During Year	Backlog December 31
1968	27,168	25,592	30,749
1969	22,005	24,648	28,297
1970	21,161	24,752	24,705
1971	21,553	21,679	24,579
1972	23,570	21,289	26,860
1973	27,044	24,305	29,661
1974	32,879	26,768	35,770
1975	28,815	29,205	35,126
1976	35,991	30,363	37,682
1977 ²	NA	NA	NA

¹ New order received during the year less terminations during the year.
² Figures not available at time of publication.

TABLE 9.10

AVERAGE EMPLOYMENT AND EARNINGS IN U.S. AIRCRAFT INDUSTRY: CALENDAR YEARS 1971 THROUGH 1977

Industry	1977	1976	1975	1974	1973	1972	1971
<u>Average monthly employees (000)</u>							
Aircraft and parts	<u>476.9</u>	<u>484.5</u>	<u>514.4</u>	<u>532.1</u>	<u>514.0</u>	<u>501.1</u>	<u>538.1</u>
Aircraft	243.8	262.0	275.0	289.3	274.6	272.2	290.7
Engines and parts	137.6	131.9	139.6	146.2	144.8	138.5	153.4
Other aircraft parts and equipment	95.5	90.6	99.8	96.5	94.5	90.5	93.9
<u>Average weekly hours</u>							
Aircraft and parts	<u>42.8</u>	<u>41.7</u>	<u>41.1</u>	<u>40.5</u>	<u>41.5</u>	<u>41.6</u>	<u>40.7</u>
Aircraft	42.7	41.6	40.4	39.4	41.1	41.7	41.0
Engines and parts	42.0	41.0	41.4	41.2	41.8	41.1	39.8
Other aircraft parts and equipment	44.1	42.7	41.9	42.1	42.1	41.9	41.2
<u>Average weekly earnings</u>							
Aircraft and parts	<u>307.73</u>	<u>278.56</u>	<u>246.19</u>	<u>218.70</u>	<u>207.50</u>	<u>193.44</u>	<u>175.82</u>
Aircraft	310.43	283.30	250.48	219.46	210.84	197.66	178.76
Engines and parts	315.00	281.26	249.64	223.72	211.09	193.17	173.53
Other aircraft parts and equipment	295.03	263.89	231.29	210.92	196.19	183.10	171.80
<u>Average hourly earnings</u>							
Aircraft and parts	<u>7.19</u>	<u>6.68</u>	<u>5.99</u>	<u>5.40</u>	<u>5.00</u>	<u>4.65</u>	<u>4.32</u>
Aircraft	7.27	6.81	6.20	5.57	5.13	4.74	4.36
Engines and parts	7.50	6.86	6.03	5.43	5.05	4.70	4.36
Other aircraft parts and equipment	6.69	6.18	5.52	5.01	4.66	4.37	4.17

TABLE 9.11

UNITED STATES EXPORTS OF AERONAUTICAL PRODUCTS: CALENDAR YEARS 1976 THROUGH 1977

Item	1977		1976	
	Number	Value (\$000)	Number	Value (\$000)
Aircraft, parts, and accessories--total	---	6,664,890	---	7,059,787
Commercial and civilian aircraft--total . .	4,847	2,744,465	4,531	3,217,360
Cargo-transport, new:				
Under 33,000 pounds (empty airframe weight)	---	---	1	175
33,000 pounds and over (empty airframe weight)	4	67,733	10	108,062
Passenger transports, new:				
Under 33,000 pounds (empty airframe weight)	5	1,985	3	1,159
33,000 pounds and over (empty airframe weight)	83	1,663,461	133	2,033,222
Passenger, cargo combinations, new:				
Under 33,000 pounds (empty airframe weight)	2	3,809	---	---
33,000 pounds and over (empty airframe weight)	9	204,678	16	334,319
Aircraft, personal, and utility types:				
Single engine, new	2,664	93,098	2,374	73,885
Multiple engine, new:				
Under 3,000 pounds (empty airframe weight)	273	27,370	228	17,328
3,000 pounds and over (empty airframe weight)	525	262,416	612	269,229
Rotary-wing, new:				
Under 2,000 pounds (empty airframe weight)	233	37,960	201	28,131
2,000 pounds and over (empty airframe weight)	88	67,534	114	85,211
Aircraft: used, rebuilt, modified or converted, including aircraft changed from military to nonmilitary type . . .	477	313,086	591	263,940
Aircraft, new (not elsewhere classified)	484	1,335	248	2,699

TABLE 9.11 (Continued)

UNITED STATES EXPORTS OF AERONAUTICAL PRODUCTS: CALENDAR YEARS 1976 THROUGH 1977

Item	1977		1976	
	Number	Value (\$000)	Number	Value (\$000)
Aircraft engines--total	<u>3,528</u>	<u>37,224</u>	<u>3,498</u>	<u>40,837</u>
Internal combustion aircraft engines, new:				
Under 500 h.p.	2,217	17,359	2,417	19,716
500 h.p. and over	258	4,775	127	5,434
Aircraft engines, used	1,053	15,090	954	15,687
Aircraft components, parts, and accessories ¹	---	3,883,201	---	3,801,590

¹ Includes military aircraft, parts, jet and gas turbines for aircraft, new or used.

Source: Current Industrial Reports, Bureau of the Census, U.S. Department of Commerce.

X. AIRCRAFT ACCIDENTS

The data presented in this chapter were obtained from the following sources:

Accidents: National Transportation Safety Board.

Air Carrier Miles Flown: National Transportation Safety Board.

Estimated General Aviation Hours and Miles Flown: Federal Aviation Administration.

As defined by the NTSB, an aircraft accident is: "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage."

Fatal injury means any injury which results in death within 7 days of the accident.

Operator means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

Serious injury means any injury which (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) involves lacerations which cause severe hemorrhages, nerve, muscle, or tendon damage; (4) involves injury to any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Substantial damage:

(1) Except as provided in subparagraph (2) of this paragraph, substantial damage means damage or structural failure which

adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.

(2) Engine failure, damage limited to an engine, bent fairings or cowlings, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes or wingtips are not considered substantial damage for the purpose of this part.

Commencing in 1968, general aviation accidents cannot be compared with earlier years because of an amendment to the definition of substantial damage.

Prior to January 1, 1968, the definition of substantial damage was:

(1) Except as provided in subparagraph (ii) of this paragraph:

(i) Substantial damage in aircraft of 12,500 pounds maximum certificated takeoff weight or less means damage or structural failure reasonably estimated to cost \$300 or more to repair.

(ii) Substantial damage in aircraft of more than 12,500 pounds maximum certificated takeoff weight means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repairs or replacement of the affected component.

(2) Engine failure, damage limited to an engine, bent fairings, or cowlings, dented skin, small puncture holes in the skin or fabric, taxiing damage to propeller blades, damage to tires, engine accessories, brakes or wingtips are not considered substantial damage for the purpose of this part.

More detailed accident data may be obtained from the National Transportation Safety Board, Bureau of Aviation Safety.

TABLE 10.1
AIRCRAFT ACCIDENTS, FATALITIES, AND FATALITY RATE--U.S. AIR CARRIER OPERATIONS: 1977

Air Carrier and Operation	Number of Accidents		Number of Fatalities	Passenger Fatality Rate ¹
	Total	Fatal		
Total	3	1	3	---
Certificated route air carriers--all operations	---	---	---	---
Supplemental air carriers--all operations	2	1	3	---
Commercial--all operations	1	---	---	---
Passenger operations:				
Certificated route air carriers scheduled passenger service	---	---	---	---
Domestic passenger service	---	---	---	---
International/territorial passenger service	---	---	---	---
Supplemental air carrier passenger service, civil and military	2	1	3	---
Commercial	1	---	---	---

¹ Per 100 million passenger miles.

NOTE: Beginning in 1975, accidents involving commercial operators of large aircraft are included. Nonrevenue miles of the supplemental air carriers are not reported.

Source: National Transportation Safety Board.

TABLE 10.2

FATAL ACCIDENTS, FATALITIES--U.S. AIR CARRIERS, ALL OPERATIONS: 1977

Date	Location	Operator	Service	Aircraft	Fatalities				Total Aboard	Reported Type of Accident
					Total	Passenger	Crew	Other		
Total--Certificated and Commercial										
					656	382	17	257	760	
Certificated Route Air Carriers										
3/27/77	Santa Cruz de Tenerife, Canary Islands	PAAWA ¹ KLM ²	Psg (NS-I) Psg (NS-I)	B747 B747	327 248	318 ---	9 ---	--- 248	396 248	Ground collision, PAAWA taxiing and KLM takeoff run.
4/4/77	New Hope, GA	SOU ³	Psg (S-D)	DC9	70	60	2	8	85	Crashed enroute.
5/16/77	New York, NY	NYA ⁴	Psg (S-D)	S/61L	5	4	---	1	25	Roll over while idling rotors.
12/18/77	Kayesville, UT	UAL ⁵	Crg (S-D)	DC8	3	---	3	---	3	Collided with mountain.
Commercial Operators of Large Aircraft										
7/6/77	St. Louis, MO	FLAX ⁶	Crg (NS-D)	L188	3	---	3	---	3	Crashed during takeoff.

1 PAAWA
2 KLM
3 SOU

4 NYA
5 UAL
6 FLAX

New York Airways
United Air Lines
Fleming International Airways

TABLE 10.2 (Continued)

FATAL ACCIDENTS, FATALITIES--U.S. AIR CARRIERS, ALL OPERATIONS: 1976

Date	Location	Operator	Service	Aircraft	Fatalities			Total Aboard	Reported Type of Accident
					Total	Passenger	Crew		
Total									
					45	39	6	148	
Certificated Route Air Carriers									
3/7/76	Igiugig, AK	KWA ¹	Psg (S-C)	C207	4	3	1	4	Crashed enroute.
4/5/76	Ketchikan, AK	ASA ²	Psg (S-D)	B727	1	1	---	50	Aircraft ran off end of runway during landing, fire after impact.
4/27/76	Charlotte Amalie, St. Thomas, VI	AAL ³	Psg (S-I)	B727	37	35	2	88	Crashed during landing.
Commercial Operators of Large Aircraft									
2/8/76	Van Nuys, CA	MEX ⁴	Ferry	DC6	3	---	3	6	Engine failure during takeoff, crashed during emergency landing.

¹ Kodiak-Western Alaska Airlines² Alaska Airlines³ American Airlines⁴ Mercer Enterprises

Source: National Transportation Safety Board.

TABLE 10.3

AIRCRAFT ACCIDENTS, ACCIDENT RATES, AND FATALITIES--U.S. AIR CARRIER OPERATIONS: 1968-1977

Year	Number of Accidents		Aircraft Miles Flown (000) ¹	Accident Rate Per Million Aircraft Miles Flown		Fatalities		
	Total	Fatal		Total Accidents	Fatal Accidents	Total	Passengers	Crew and Others
1968	71	15 ²	2,498,848	0.028	0.005	349	306	43
1969	63	10 ²	2,736,596	0.023	0.003	158	132	26
1970	55	8	2,684,552	0.020	0.003	146	118	28
1971	48	8 ²	2,660,731	0.018	0.002	203	174	29
1972	50	8	2,619,043	0.019	0.003	190	160	30
1973	43	9	2,646,669	0.016	0.003	227	200	27
1974	47	9	2,464,295	0.019	0.003	467	421	46
1975 ³	45	3	2,477,764	0.018	0.001	124	113	11
1976	28	4	2,568,113	0.011	0.002	45	39	6
1977	26	5	2,684,072	0.010	0.002	656	382	274

¹ Nonrevenue miles of the supplemental air carriers are not reported.² Includes midair collision accidents nonfatal to air carrier occupants. Number of accidents excluded from fatal accident rates (1968-2, 1969-1, 1971-2).³ Beginning in 1975, figures include accidents involving commercial operators of large aircraft.

NOTE: Sabotage accident (9/8/74) is included in all computations except rates. In 1977, Fatalities (Other) includes 248 on aircraft of foreign registry.

Source: National Transportation Safety Board.

TABLE 10.4

AIRCRAFT ACCIDENTS, ACCIDENT RATES, AND FATALITIES--U.S. CERTIFICATED ROUTE AIR CARRIERS: 1968-1977

Year	Number of Accidents		Aircraft Miles Flown (000)	Accident Rate Per Million Aircraft Miles Flown		Fatalities		
	Total	Fatal		Total Accidents	Fatal Accidents	Total	Passenger	Crew and Others
1968	62	14 ¹	2,385,309	0.026	0.005	348	305	43
1969	61	10 ¹	2,620,803	0.023	0.003	158	132	26
1970	49	5	2,591,706	0.019	0.002	85	72	13
1971	47	8 ¹	2,557,968	0.018	0.002	203	174	29
1972	48	8	2,526,021	0.019	0.003	190	160	30
1973	40	8	2,555,732	0.016	0.003	221	197	24
1974	45	8	2,384,933	0.018	0.003	463	420	43
1975	36	2	2,357,425	0.015	0.001	122	113	9
1976	25	3	2,448,413	0.010	0.001	42	39	3
1977	21	4	2,556,080	0.008	0.002	396	382	14

¹ Includes midair collision accidents nonfatal to air carrier occupants. Number of accidents excluded from fatal accident rates (1968-2, 1969-1, 1971-2).

Source: National Transportation Safety Board.

TABLE 10.5

AIRCRAFT ACCIDENTS, FATALITIES, AND FATALITY RATE--U.S. CERTIFICATED ROUTE
AIR CARRIER SCHEDULED DOMESTIC AND INTERNATIONAL PASSENGER SERVICE: 1968-1977

Year	Aircraft Accidents		Fatalities			Passengers Carried	Passenger-Miles Flown (000)	Passenger Fatality Rate Per 100 Million Passenger-Miles
	Total	Fatal	Total	Passenger	Crew and Other			
1968	53	13 ¹	345	305	40	150,162,701	119,612,578	0.255
1969	48	7	152	132	20	159,213,414	132,161,593	0.100
1970	39	2	3	2	1	171,697,097	139,157,806	0.001
1971	41	6 ¹	194	174	20	173,664,737	145,678,876	0.119
1972	43	7	186	160	26	188,938,932	159,722,015	0.100
1973	32	6	217	197	20	202,207,000	171,436,549	0.115
1974	42	7	460	420	40	207,449,006	173,349,894	0.197
1975	28	2	122	113	9	205,059,571	174,173,138	0.065
1976	21	2	38	36	2	223,313,131	190,915,721	0.019
1977	17	2	75	64	11	240,326,516	206,205,410	0.031

¹ Includes 2 midair collisions that were nonfatal to air carrier occupants.

NOTE: Passenger deaths occurring in sabotage accidents are included in the passenger fatality column, but are excluded in the computation of fatality rates for the years 1974-1977.

Source: National Transportation Safety Board.

TABLE 10.6

AIRCRAFT ACCIDENTS, FATALITIES, AND FATALITY RATE--U.S. CERTIFICATED ROUTE
AIR CARRIER SCHEDULED DOMESTIC PASSENGER SERVICE: 1968-1977

Year	Aircraft Accidents		Fatalities			Passengers Carried	Passenger-Miles Flown (000)	Passenger Fatality Rate Per 100 Million Passenger-Miles
	Total	Fatal	Total	Passenger	Crew and Other			
1968	42	11 ¹	288	258	30	134,434,632	91,668,180	0.281
1969	36	7	152	132	20	142,364,035	100,815,837	0.131
1970	32	1	1	---	1	155,097,644	109,183,837	---
1971	33	6 ¹	194	174	20	156,097,403	113,240,603	0.154
1972	37	6	185	160	25	169,931,415	123,775,960	0.129
1973	27	4	138	128	10	183,271,000	133,733,181	0.096
1974	31	3	168	158	10	189,723,697	137,657,951	0.115
1975	21	2	122	113	9	188,743,983	140,299,953	0.081
1976	17	1	1	1	---	206,274,000	154,322,683	0.001
1977	15	2	75	64	11	222,283,516	166,424,934	0.038

¹ Includes 2 midair collisions that were nonfatal to air carrier occupants.

Source: National Transportation Safety Board.

TABLE 10.7

ACCIDENTS, FATALITIES, FATALITY RATE--U.S. CERTIFICATED ROUTE AIR CARRIERS

SCHEDULED INTERNATIONAL PASSENGER SERVICE: 1968-1977

Year	Accidents		Fatalities			Passengers Carried	Passenger-Miles Flown (000)	Passenger Fatality Rate Per 100 Million Passenger-Miles
	Total	Fatal	Total	Passenger	Crew and Other			
1968	11	2	57	47	10	15,728,069	27,944,398	0.168
1969	12	---	---	---	---	16,849,379	31,345,756	---
1970	7	1	2	2	---	16,599,453	29,973,969	0.007
1971	8	---	---	---	---	17,567,334	32,438,273	---
1972	6	1	1	---	1	19,007,517	35,946,055	---
1973	5	2	79	69	10	18,936,000	37,703,368	0.183
1974	12	4	292	262	30	17,725,309	35,691,093	0.513
1975	7	---	---	---	---	16,315,588	33,873,185	---
1976	4	1	37	35	2	17,039,131	36,593,038	0.096
1977	3	---	---	---	---	18,043,000	39,780,476	---

NOTE: Passenger deaths occurring in sabotage accidents are included in passenger fatality column but excluded in the computation of passenger fatality rates (1974 through 1979).

Source: National Transportation Safety Board.

TABLE 10.8

ACCIDENTS, ACCIDENT RATES, AND FATALITIES--U.S. SUPPLEMENTAL AIR CARRIERS

ALL OPERATIONS: 1968-1977

Year	Accidents		Aircraft Miles Flown (000)	Accident Rate Per Million Aircraft Miles Flown		Fatalities		
	Total	Fatal		Total Accidents	Fatal Accidents	Total	Passengers	Crew and Other
1968	9	1	113,540 ¹	0.079	0.009	1	1	---
1969	2	---	115,793 ¹	0.017	---	---	---	---
1970	6	3	92,846 ¹	0.065	0.032	61	46	15
1971	1	---	102,763 ¹	0.010	---	---	---	---
1972	2	---	93,022 ¹	0.022	---	---	---	---
1973	3	1	90,937 ¹	0.033	0.011	6	3	3
1974	2	1	79,363 ¹	0.025	0.013	4	1	3
1975	2	---	65,476 ¹	0.031	---	---	---	---
1976	1	---	62,640 ¹	0.016	---	---	---	---
1977	2	---	67,699 ¹	0.030	---	---	---	---

¹ Nonrevenue miles not reported.

Source: National Transportation Safety Board.

TABLE 10.9
AIRCRAFT ACCIDENTS, FATALITIES, AND FATALITY RATE--U.S. SUPPLEMENTAL AIR CARRIER
CIVIL AND MILITARY PASSENGER OPERATIONS: 1968-1977

Year	Accidents		Fatalities			Passengers Carried	Passenger-Miles Flown (000)	Passenger Fatality Rate Per 100 Million Passenger-Miles
	Total	Fatal	Total	Passenger	Crew			
1968	3	1	1	1	---	2,669,466	8,885,783	0.011
1969	---	---	---	---	---	3,705,975	11,134,706	---
1970	2	1	47	46	1	2,950,224	10,288,728	0.447
1971	---	---	---	---	---	3,295,803	10,573,646	---
1972	---	---	---	---	---	3,473,599	10,049,683	---
1973	1	---	---	---	---	3,569,912	11,790,513	---
1974	1	---	---	---	---	3,194,463	10,862,449	---
1975	1	---	---	---	---	2,352,423	8,759,279	---
1976	1	---	---	---	---	2,191,661	8,199,053	---
1977	2	---	---	---	---	2,793,761	9,983,404	---

Source: National Transportation Safety Board.

TABLE 10.10
AIRCRAFT ACCIDENTS, FATALITIES, AND ACCIDENT RATES--U.S. GENERAL AVIATION FLYING: 1968-1977

Year	Accidents		Fatalities	Aircraft Hours Flown (000) ¹	Aircraft-Miles Flown (000) ¹	Accident Rates			
	Total	Fatal				100,000 Aircraft Hours		Million Aircraft Miles	
						Total	Fatal	Total	Fatal
1968	4,968 ²	692 ²	1,399	24,053	3,700,864	20.6	2.86	1.34	0.186
1969	4,767	647	1,495 ³	25,351	3,926,461	18.8	2.55	1.21	0.164
1970	4,712 ²	641 ²	1,310	26,030	3,207,127 ⁴	18.1	2.46	1.47	0.200
1971	4,648	661	1,355	25,512	3,143,181	18.2	2.59	1.48	0.211
1972	4,256 ²	695 ²	1,426 ³	26,974	3,317,100	15.8	2.57	1.28	0.209
1973	4,255 ²	723 ²	1,412	30,048	3,728,500	14.2	2.40	1.14	0.193
1974	4,425 ²	729 ²	1,438	32,475	4,042,700	13.6	2.24	1.04	0.180
1975	4,237 ²	675 ²	1,345	34,165	4,238,400	12.4	1.97	1.00	0.159
1976	4,193	695	1,320	36,128	4,476,014	11.6	1.92	0.94	0.155
1977	4,286	702	1,436	NA	NA	NA	NA	NA	NA

¹ Statistics compiled by FAA.

² Suicide/sabotage accidents are included in all computations except for rates (1968-3, 1970-1, 1972-3, 1973-2, 1974-2, 1975-2, 1976-4, 1977-1).

³ Includes air carrier fatalities (1967-104, 1969-82, 1972-5) when in collision with general aviation aircraft.

⁴ Beginning in 1970, the decrease in aircraft-miles flown is the result of a change in the FAA standard for estimating miles flown.

Source: National Transportation Safety Board.

TABLE 10.11
COMPARATIVE ACCIDENT DATA: 1968 THROUGH 1977
(PASSENGER FATALITIES PER 100 MILLION PASSENGER-MILES)

Year	Passenger Automobiles and Taxis	Buses	Railroad Passenger Trains	Domestic Scheduled Air Transport Planes
1968	2.40	.21	.20	.28
1969	2.30	.19	.07	.13
1970	2.10	.19	.09	.00
1971	1.90	.19	.24	.15
1972	1.90	.19	.53	.13
1973	1.70	.14	.07	.10
1974	1.30	.21	.07	.12
1975	1.40	.15	.08	.08
1976	1.50	.01	.05	.003
1977	1.33	.13	.05	.04

Source: Motor vehicle (automobiles, taxis, and buses) and railroad passenger train data from the National Safety Council. Domestic scheduled air transport data from the National Transportation Safety Board.

TABLE 10.12
AIRCRAFT ACCIDENTS, FATALITIES, AND ACCIDENT RATES--
U.S. AIR TAXI OPERATIONS: 1968 THROUGH 1977

Year	Accidents		Fatalities	Aircraft Hours Flown ¹	Accident Rates Per 100,000 Aircraft Hours Flown	
	Total	Fatal			Total	Fatal
1968 ²	179	46	111	1,999,000	8.95	2.30
1969	207	29	142	2,238,000	9.25	1.30
1970	190	38	100	2,481,000	7.66	1.53
1971	148	32	109	2,225,000	6.65	1.44
1972	147	42	121	2,555,000	5.75	1.64
1973	163	42	109	3,066,000	5.32	1.37
1974	191	40	111	3,640,000	5.25	1.10
1975	180	26	70	3,822,000 ³	4.71	0.68
1976	195	39	118	3,872,000 ³	5.04	1.01
1977	217	44	155	4,207,400 ³	5.16	1.05

- ¹ Aircraft hours estimated by FAA.
² Definition of accident changed.
³ Aircraft hours estimated by NTSB.

Source: National Transportation Safety Board.

GLOSSARY

The following terms are used in this publication, and the general definitions given here are intended to help the reader comprehend the data presented. Technical detail has been omitted for these definitions.

ACTIVE AIRCRAFT--All legally registered civil aircraft for which one or more flight hours are reported.

AERIAL APPLICATION--Any use of an aircraft for work purposes which concern the production of foods, fibers, and health control in which the aircraft is used in lieu of farm implements or ground vehicles for the particular task accomplished. This includes the distribution of chemicals or seeds in agriculture, reforestation, or insect control; it excludes firefighting operations.

AIR CARGO--All commercial air express and air freight exclusive of air mail and air parcel post.

AIR CARRIER--A person who undertakes directly by lease, or other arrangement, to engage in air transportation.

AIRCRAFT ACCIDENT--As defined for within agency use, (1) when, as a result of the operation of an aircraft, any person (occupant or nonoccupant) receives fatal or serious injury, or any aircraft receives substantial damage as provided in Part 320.2(d) of the Regulations (CAB); (2) aircraft collide in flight; or (3) an aircraft is overdue and is believed to have been involved in an accident.

AIRCRAFT CONTACTED--Aircraft with which the flight service stations have established radio communications contact. One count is made for each enroute, landing, or departing aircraft contacted by a flight service station regardless of the number of contacts made with an individual aircraft during the same flight. A flight contacting five FSSs would be counted as five aircraft contacted.

AIRCRAFT HANDLED--See IFR AIRCRAFT HANDLED.

AIRCRAFT MILES or PLANE MILES--The miles (computed in airport-to-airport distances) for each inter-airport hop actually completed, whether or not performed in accordance with the scheduled pattern. For this purpose, operation to a flag stop is a hop completed even though a landing is not actually made.

AIRCRAFT OPERATION--The airborne movement of aircraft in controlled or noncontrolled airport terminal areas and about given enroute fixes or at other points where counts can be made. There are two types of operations--local and itinerant.

1. Local operations are performed by aircraft which:
 - (a) Operate in the local traffic pattern or within sight of the airport.

- (b) Are known to be departing for, or arriving from, flight in local practice areas within a 20 mile radius of the airport.
 - (c) Execute simulated instrument approaches or low passes at the airport.
2. Itinerant operations are all aircraft operations other than local operations.

AIRCRAFT TYPE--A term used in grouping aircraft by basic configuration--fixed-wing, rotorcraft, glider, dirigible, and balloon.

AIRLINE--An established system of aerial transportation--especially a commercial system--together with its equipment, holdings, and facilities.

AIRMAN--A pilot, mechanic, or other licensed aviation technician.

AIRMAN CERTIFICATE--A document issued by the Administrator of the Federal Aviation Administration certifying that he has found the holder to comply with the regulations governing the capacity in which the certificate authorizes the holder to act as an airman in connection with aircraft.

AIRPORT--An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

AIRPORT ADVISORY SERVICE--A service provided by flight service stations at airports not served by a control tower. This service consists of providing information to landing and departing aircraft concerning wind direction and velocity, favored runway, altimeter setting, pertinent known traffic, pertinent known field conditions, airport taxi routes and traffic patterns, and authorized instrument approach procedures.

AIRPORT OF ENTRY--An international airport designated by the U.S. Bureau of Customs for the landing of aircraft upon arrival from a foreign country. At these airports, landing is permissible at any time; personnel authorized to conduct the formalities incident to customs, immigration, public health, agricultural quarantine, and similar procedures are permanently located there.

AIRPORT SURVEILLANCE RADAR (ASR)--Radar providing position of aircraft by azimuth and range data. It does not provide elevation data. It is designed for range coverage up to 60 nautical miles and is used by terminal area air traffic control.

AIRPORT TRAFFIC--Aircraft operating in the air or on an airport surface exclusive of loading ramps and parking areas.

AIRPORT TRAFFIC CONTROL SERVICE--Air traffic control service provided by an airport traffic control tower for aircraft operating on the movement area, and in the vicinity of an airport.

AIRPORT TRAFFIC CONTROL TOWER (ATCT)--A central operations facility in the terminal air traffic control system, consisting of a tower cab structure, including an associated IFR room if radar equipped, using air/ground communications and/or radar, visual signaling and other devices, to provide safe and expeditious movement of terminal air traffic.

AIRPORT TYPE--General use--Airports serving as regular, alternate, or provisional stops for scheduled and large irregular air carriers; non-air-carrier airports offering a minimum of services such as fuel and regular attendants during normal working hours; and airports operating seasonally which qualify under above definition.

Limited Use--Airports available to public but not equipped to offer minimum services.

Restricted Use--Use by general public prohibited except in case of forced landing or by previous arrangement.

AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC)--A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace, and principally during the en route phase of flight.

AIR TAXI OPERATOR--An operator providing either scheduled or unscheduled air taxi service or mail service.

AIR TRAFFIC--Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

AIR TRAFFIC CONTROL--A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

AIR TRAFFIC CONTROL FACILITY--A facility in the U.S., its possessions and territories, and in foreign countries especially established by international agreement, that has the capability to provide air traffic control services to the aeronautical public.

AIR TRAFFIC HUB--Air traffic hubs are not airports; they are the cities and Standard Metropolitan Statistical Areas requiring aviation services. Communities fall into four classes as determined by each community's percentage of the total enplaned passengers in scheduled service of the fixed-wing operations of the domestic certificated route air carriers in the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. (See Standard Metropolitan Area.)

AIRWORTHINESS CERTIFICATE--The issuance of this certificate by the Federal Aviation Administration signifies that an aircraft conforms to the type design (except for the experimental classification) and is in condition for safe operation.

ALL-CARGO CARRIER--One of a class of air carriers holding Certificates of Public Convenience and Necessity, issued by the CAB, authorizing the performance of scheduled air freight, express, and mail transportation over specified routes, as well as the conduct of nonscheduled operations, which may include passengers.

ALL-CARGO SERVICE (AIR)--Flights scheduled primarily for the transportation of freight and express. Could include mail.

ALL SERVICES (AIR)--The total of scheduled and nonscheduled services.

ALTERNATE AIRPORT--An approved airport at which an aircraft may land if a landing at the intended airport becomes inadvisable.

APPROACH CONTROL FACILITY--A terminal area traffic control facility providing approach control service.

APPROACH CONTROL SERVICE--Air traffic control service provided by an approach control facility for arriving and departing VFR/IFR aircraft and, on occasion, tower en route control service.

ARTCC--Air Route Traffic Control Center.

ARSR--Air Route Surveillance Radar.

ATC--Air Traffic Control.

AVAILABLE SEAT-MILES--The aircraft miles flown on each interairport hop multiplied by the available aircraft capacity (tons) for that hop, representing the traffic carrying capacity offered.

BUSINESS TRANSPORTATION--Any use of an aircraft not for compensation or hire by an individual for the purposes of transportation required by a business in which he is engaged.

CAB--Civil Aeronautics Board.

CERTIFICATED ROUTE AIR CARRIER--An air carrier holding a Certificate of Public Convenience and Necessity issued by the CAB authorizing the performance of scheduled service over specified routes, and a limited amount of nonscheduled service.

CERTIFICATED ROUTE-MILES OPERATED--Certificated route miles operated are based on each carrier's certificate. This is duplication in that if a pair of points are on different segments they are counted for each segment.

COACH SERVICE (AIR)--Transport service established for the carriage of passengers at fares and quality of service below that of first class service.

COMBINED STATION/TOWER--A combined facility (see Airport Traffic Control Tower and Flight Service Station).

COMMERCIAL OPERATOR--One of a class of air carriers operating on a private for hire basis, as distinguished from a public or common air carrier, holding a commercial operator certificate, issued by the Administrator of the Federal Aviation Administration (pursuant to Part 45 of the Civil Air Regulations) authorizing it to operate aircraft in air commerce for the transportation of goods or passengers for compensation or hire

COMMUTER OPERATOR--Any operator who performs, pursuant to published schedule, at least five round trips per week between two or more points, or carries mail on contract.

CONTROLLED AIRSPACE--Airspace control area designated as a continental control area, control zone, terminal control area, or transition area, within which some or all aircraft may be subject to air traffic control.

CS/T--Combined Station/Tower.

DEFENSE VISUAL FLIGHT RULES (DVFR)--A flight within an Air Defense Identification Zone conducted under the visual flight rules in Federal Aviation Regulation Part 99.

DOMESTIC OPERATIONS--In general, operations within and between the 50 States, and the District of Columbia. Includes domestic operations of the certificated trunk carriers, and the local service, helicopter, Alaskan, Hawaiian, domestic all-cargo, and other carriers.

DOMESTIC TRUNKS (DOMESTIC TRUNK OPERATIONS)--Domestic operations of the domestic trunk carriers. This group of carriers operates primarily within and between the 50 States of the United States over routes servicing primarily the larger communities. International operations of these carriers are shown under "international operations," and not under "domestic trunk operations."

DVFR--Defense Visual Flight Rules.

ECONOMY SERVICE (AIR)--Transport service established for the carriage of passengers at fares and quality service below coach service.

ENPLANED PASSENGERS--The number of revenue passengers boarding aircraft, including originating, stopover, and transfer passengers.

EXECUTIVE TRANSPORTATION--Any use of an aircraft by a corporation, company or other organization for the purposes of transporting its employees and/or property not for compensation or hire, and employing professional pilots for the operation of the aircraft.

EXPRESS (AIR)--Property transported by air under published air express tariffs filed with the Civil Aeronautics Board.

FAA--Federal Aviation Administration.

FAR--Federal Aviation Regulations.

FIRST-CLASS SERVICE (AIR)--Transport service established for the carriage of passengers at standard fares, premium fares, or at reduced fares such as family plan and first-class excursion for whom standard or premium quality services are provided.

FIXED-WING AIRCRAFT--Aircraft having wings fixed to the airplane fuselage and outspread in flight, i.e., nonrotating wings.

FLIGHT ADVISORY SERVICE--Advice and information provided by a facility to assist pilots in the safe conduct of flight and aircraft movement.

FLIGHT CONDITION MESSAGE--A message for an en route aircraft that summarizes the weather condition expected to be encountered and, when appropriate, recommends alternate routes to avoid adverse weather conditions.

FLIGHT PLAN--Specified information, relating to the intended flight of an aircraft, that is filed orally or in writing with air traffic control.

FLIGHT SERVICE STATION (FSS)--A central operations facility in the national flight advisory system utilizing data interchange facilities for the collection and dissemination of NOTAMS, weather, administrative data; and providing preflight and inflight advisory service, and other services to pilots, via air/ground communications facilities.

FOREIGN FLAG AIR CARRIER--An air carrier other than a U.S. flag air carrier engaged in international air transportation (see also U.S. Flag Carrier).

FOREIGN MAIL--Mail transported outside the United States by U.S. flag carriers for a foreign government.

FREIGHT--Property other than express and passenger baggage transported by air.

FSS--Flight Service Station.

GENERAL AVIATION FLYING--That portion of civil aviation which encompasses all facets of aviation except air carriers holding a certificate of convenience and necessity from the Civil Aeronautics Board, and large aircraft commercial operators.

HELICOPTER--A rotorcraft that, for its horizontal motion, depends principally on its engine driven rotors.

HELICOPTER CARRIERS--Domestic certificated route air carriers primarily employing helicopter aircraft for their operations.

HELIPORT--An area of land, water, or any structure used or intended to be used for the landing and takeoff of helicopters.

HORSEPOWER--The measure of power for piston engines.

ICAO--International Civil Aviation Organization (Montreal, Canada).

IFR--Instrument Flight Rules.

IFR AIRCRAFT HANDLED--The number of IFR departures multiplied by two plus the number of IFR overs. This definition assumes that the number of departures (acceptances, extensions, and originations of IFR flight plans) is equal to the number of landings (IFR flight plans closed).

IFR DEPARTURE--An IFR departure includes IFR flights:

1. Originating in a center's area;
2. Accepted by the center under SOLE EN ROUTE clearance procedures;
3. Extended by the center.

IFR OVER--An IFR flight that originates outside the ARTC area and passes through the area without landing.

IFSS--International Flight Service Station.

ILS--Instrument Landing System. A landing approach system that establishes a course and descent path to align an aircraft with a runway for final approach.

INACTIVE AIRCRAFT--All legally registered civil aircraft for which zero flight hours were reported.

INDUSTRIAL/SPECIAL--Any use of an aircraft for specialized work allied with industrial activity; excluding transportation and aerial application. (Examples: pipeline patrol; survey; advertising; photography; helicopter hoist; etc.)

INSTRUCTIONAL FLYING--Any use of an aircraft for the purpose of formal instruction with the flight instructor aboard, or with the maneuvers on the particular flight(s) specified by the flight instructor.

INSTRUMENT APPROACH--An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

INSTRUMENT FLIGHT RULES (IFR)--Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

INTERNATIONAL FLIGHT SERVICE STATION (IFSS)--A central operations facility in the flight advisory system, manned and equipped to control aeronautical point-to-point telecommunications, and air/ground telecommunications with pilots operating over international territory or waters, providing flight plan following, weather information, search and rescue action, and other flight assistance operations.

INTERNATIONAL OPERATIONS--In general, operations outside the territory of the United States, including operations between the United States and foreign countries, and the United States and its territories or possessions. Includes both the combination passenger/cargo carrier and the all-cargo carriers engaged in international and territorial operations.

LARGE AIR TRAFFIC HUB--A community enplaning 1.00 percent or more of the total enplaned passengers in all services and all operations for all communities within the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. (Also see AIR TRAFFIC HUB.)

LOCAL SERVICE CARRIERS--Certificated domestic route air carriers operating routes of lesser density between the smaller traffic centers and between those centers and principal centers.

MEDIUM AIR TRAFFIC HUB--A community enplaning from 0.25 to 0.99 percent of the total enplaned passengers in all services and all operations for all communities within the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. (Also see AIR TRAFFIC HUB.)

MIXED-CLASS SERVICE (AIR)--Transport service for the carriage in any combination of first-class, coach (tourist) and/or economy (thrift) passengers on the same aircraft. The aircraft could also carry freight, express, and/or mail, but excludes all-first-class, all-coach, and all-economy service.

NAFEC--National Aviation Facilities Experimental Center of FAA, at Atlantic City, New Jersey.

NONHUB--A community enplaning less than 0.05 percent of the total enplaned passengers in all services and all operations for all communities within the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. (Also see AIR TRAFFIC HUB.)

NONPRIORITY U.S. MAIL--Mail transported by air on a space available basis.

NONSCHEDULED SERVICE--Revenue flights that are not operated in regularly scheduled service such as charter flights.

NUMBER OF PLACES--Minimum crew plus maximum number of passenger seats.

OVERALL (ton-miles, load factor, available capacity, etc.)--This term applies to the sum total of passenger plus nonpassenger traffic, i.e., to the sum of passenger and baggage, freight, express, U.S. mail, and foreign mail.

PASSENGER/CARGO AIR CARRIER--One of a class of air carriers holding certificates of public convenience and necessity issued by the CAB, authorizing the performance of scheduled air transportation of passengers and property over specified routes.

PERSONAL FLYING--Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire. This includes maintenance of pilot proficiency.

PILOT BRIEFING--Information furnished a pilot to assist in flight planning. Principal items are weather conditions, notices to airmen, routes, and preparation and handling of the flight plan.

PISTON-POWERED AIRCRAFT--An aircraft operated by engines in which pistons moving back and forth work upon a crankshaft or other devices to create rotational movement.

POSITIVE CONTROL--Control of all air traffic, within designed airspace, by air traffic control.

PRIORITY MAIL--Mail transported by air on a priority basis, includes air mail, and may include first class mail.

PRIVATELY-OWNED AIRPORT--An airport which is owned by a private individual or corporation.

PRIVATE-USE AIRPORT--An airport which is not open for the use of the general public.

PROVISIONAL AIRPORT--An airport approved for use by an air carrier for the purpose of providing service to a community when the regular airport serving that community is not available.

PUBLIC AIRPORT--An airport for public use, publicly owned and under control of a public agency.

PUBLIC-USE AIRPORT--An airport open to the public without prior permission, and without restrictions within the physical capacities of available facilities.

REGISTERED AIRCRAFT--Aircraft registered with FAA.

RELIEVER AIRPORT--An airport to serve general aviation aircraft which might otherwise use a congested air carrier served airport.

RENTAL AIRCRAFT--Aircraft owned for the purpose of renting out.

REVENUE--Pertaining to activities for which remuneration is received by the carrier.

REVENUE AIRCRAFT DEPARTURES PERFORMED--The number of aircraft takeoffs actually performed in scheduled passenger/cargo and all-cargo services.

REVENUE AIRCRAFT MILES--The total aircraft miles flown in revenue services.

REVENUE HOURS FLOWN--The aircraft hours of flights inclusive of all-cargo flights performed in revenue service. Aircraft hours are the airborne hours computed from the moment an aircraft leaves the ground until it touches the ground at the end of the flight.

REVENUE LOAD CAPACITY--The average overall carrying capacity (tons) offered for sale by aircraft in revenue services, including passengers and allowable passenger baggage.

REVENUE PASSENGER--Person receiving air transportation from an air carrier for which remuneration is received by the air carrier. Excludes any person traveling under reduced-rate transportation.

REVENUE PASSENGER ENPLANEMENTS--The count of the total number of passengers boarding aircraft.

REVENUE PASSENGER-MILE--One revenue passenger transported one mile in revenue service. Revenue passenger-miles are computed by summation of the products of the revenue aircraft miles flown on each inter-airport hop multiplied by the number of revenue passengers carried on that hop.

REVENUE TON-MILE--One ton of revenue traffic transported one mile.

ROTORCRAFT--A heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors.

SCHEDULED AIRCRAFT DEPARTURES COMPLETED--The total number of aircraft departures actually performed pursuant to published schedules at each airport. Scheduled departures performed do not include departures of flights operated as extra sections to scheduled flights.

SCHEDULED SERVICE--Transport service operated over an air carrier's certificated routes, based on published flight schedules, including extra sections and related nonrevenue flights.

SMALL AIR TRAFFIC HUB--A community enplaning from 0.05 to 0.24 percent of the total enplaned passengers in all services and all operations for all communities within the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. (Also see AIR TRAFFIC HUB.)

STANDARD METROPOLITAN STATISTICAL AREA--A county that contains at least one city of 50,000 population, or twin cities with a combined population of at least 50,000, plus any contiguous counties that are metropolitan in character and have similar economic and social relationships.

STOLPORT--An airport specifically designed for STOL aircraft, separate from conventional airport facilities.

SUPPLEMENTAL AIR CARRIER--One of a class of air carriers now holding certificates of public convenience and necessity issued by the Civil Aeronautics Board, authorizing them to perform passenger and cargo charter services supplementing the scheduled service of the certificated route air carriers. Both international and domestic charter operations are for a temporary period. The authority of supplemental air carriers to engage in military charters is of an indefinite period. In addition, they can perform on an emergency basis, as may be authorized by the CAB, scheduled operations including the transportation of individually ticketed passengers and individually waybilled cargo.

TON--A short ton (2,000 pounds).

TON-MILE--One short ton (2,000 pounds) transported one statute mile (5,280 feet). Ton-miles are computed by multiplying the aircraft miles flown on each interairport hop by the number of tons carried on that hop.

TOTAL FLIGHT SERVICES--The sum of flight plans originated, and pilot briefs, multiplied by two, plus the number of aircraft contacted. No credit is allowed for airport advisories.

TRUNK CARRIERS--This group of carriers operates primarily within and between the 50 States of the United States over routes serving primarily the larger communities.

TURBINE-POWERED AIRCRAFT--Includes aircraft with either turbojet, turbofan, turboprop, or turboshaft engines.

TURBOFAN--Aircraft operated by a turbojet engine whose thrust has been increased by the addition of a low pressure compressor (fan). The turbofan engine can have an oversized low-pressure compressor at the front with part of the flow by-passing the rest of the engine (front-fan or forward-fan) or it can have a separate fan driven by a turbine stage (aft-fan).

TURBOJET--Aircraft operated by jet engines incorporating a turbine-driven air compressor to take in and compress the air for the combustion of fuel, the gases of combustion (or the heated air) being used both to rotate the turbine and to create a thrust-producing jet.

TURBOPROP--Aircraft in which the main propulsive force is supplied by a gas turbine-driven conventional propeller. Additional propulsive force may be supplied from the discharged turbine exhaust gas.

U.S. CIVIL AIR CARRIER FLEET--See CERTIFICATED ROUTE AIR CARRIER, SUPPLEMENTAL AIR CARRIER, COMMERCIAL OPERATOR, AIR TAXI OPERATOR, and TRAVEL CLUBS.

U.S. FLAG CARRIER OR AMERICAN FLAG CARRIER--One of a class of air carriers holding a certificate of public convenience and necessity issued by the CAB, approved by the President, authorizing scheduled operations over specified routes between the United States (and/or its territories) and one or more foreign countries. (See also FOREIGN FLAG AIR CARRIER.)

VFR--Visual Flight Rules.

VFR CONDITIONS--Basic weather conditions prescribed for flight under VFR.

VFR FLIGHT--Flight conducted in accordance with Visual Flight Rules.

VHF--Very high frequency.

VOR--Very high frequency omnidirectional radio range.

WEIGHTED AVERAGE ROUTE MILES OPERATED--The shortest distance connecting all of the points served by a carrier on all of its routes, along flight paths authorized in its certificates of public convenience and necessity, computed separately for each reporting entity. These data are weighted for the time element involved in route changes and differ from certificated route miles which contain varying amounts of duplication in route segments. (Sometimes referred to as "unduplicated route miles.")

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